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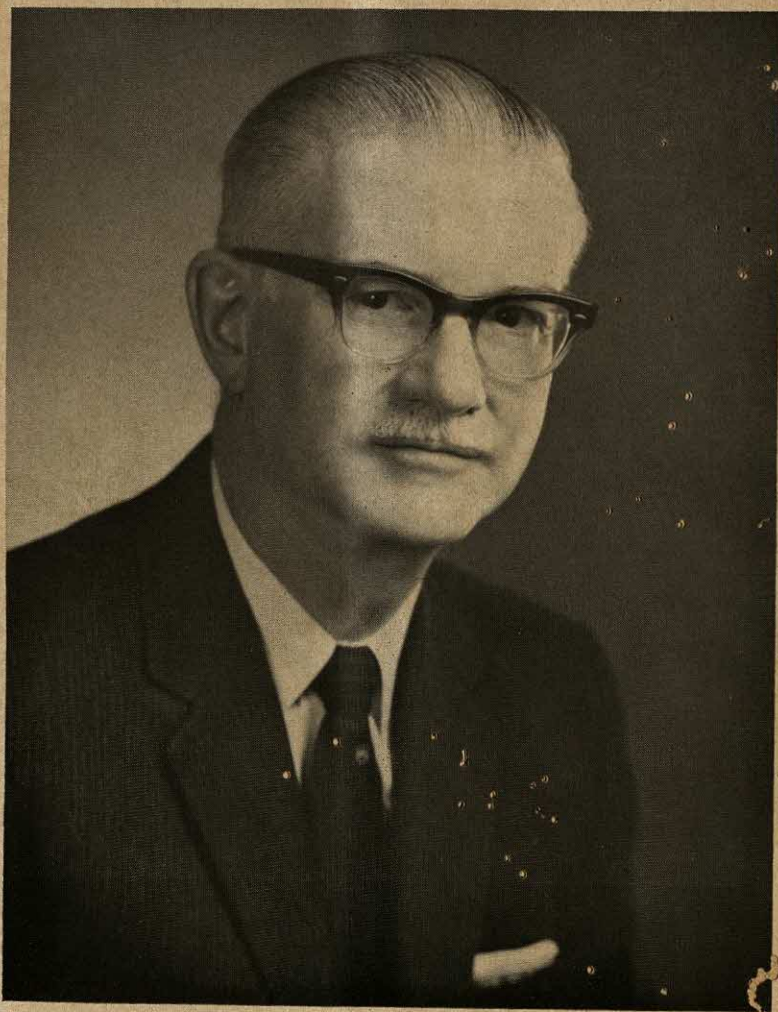
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Charles E. Barton M.D.

PRESIDENTIAL ADDRESS

PSYCHIATRY IN TRANSITION¹

WALTER E. BARTON, M.D.

Medicine's largest task is to give meaning to the longer life it has made possible.

—Dana Farnsworth.

Great achievements for human welfare and effective programs of social action have often been made by crusading individuals. Committees, commissions, and associations are less effective prodders of the social conscience. The American Psychiatric Association from its formation has been a vigorous exception. The improvement of the care and treatment of the mentally ill and furthering interests in the maintenance and advancement of standards of hospitals for mental disorders have been objectives of our association through the years.

At the 25th meeting of the association, held in Toronto on June 6, 1871 (the 13th² was the first meeting held in Canada) Dr. John S. Butler, President of the American Psychiatric Association (he had been the first superintendent of the Boston State Hospital), addressed the 37 members and guests present. The highlights of that meeting were a resolution calling for the instruction in psychiatry in medical schools; the decision not to adopt the resolution proposed by the American Medical Association's House of Delegates to join in "intimate union" and in a common meeting (1); and the long discussion of the proper size of mental hospitals. A resolution was finally adopted permitting an increase to 600 patients(2).

Today at the 118th annual meeting of this association, back in Toronto 90 years later, another superintendent of the Boston State Hospital addresses you. The size of mental hospitals is an area of continuing

disagreement. The challenge of effecting better care and treatment of the hospitalized mentally ill remains.

As president of the association, I have made *Action for Mental Health*(3) the central theme in my administration. I firmly believe that the greatest opportunity given this generation to make a sweeping advance in the entire field of psychiatry is through the implementation of the recommendations of the Joint Commission on Mental Illness and Health. Not only will adoption of the action plan be the greatest achievement in our lifetime in the United States, but it will have undoubted impact on the development of Canadian psychiatry as well.

The Joint Commission on Mental Illness and Health developed at a time when advances in treatment and new methods of management made possible new directions. The public, too, was aware of changes and was beginning to demand good psychiatric treatment. The fact that eighty percent of all psychiatrists were in private practice made community psychiatry possible. These trends were propitious to the establishment of the commission. Most members, I hope, will have read the excellent position statement adopted by the Council of the American Psychiatric Association and released on January 15, 1962(4). It urged support of the *Action for Mental Health* Program.

Nearly all psychiatrists will support the major recommendations urged by the Joint Commission:

1. *Expansion of research.* More effective treatment of mental illness and the means for preventing it awaits knowledge derived from research. "The mental health sciences address themselves to the alleviation of a complex of biological, psychological, and social problems that have plagued man throughout his history; mental health scientists face this task with an incredibly small

¹ Presidential Address delivered at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² Russells Hotel, Quebec City—28 persons attended, 3 from Canada.

fund of knowledge about causes and cures" (3). Advocated is a balanced and diversified portfolio of basic and applied research with more support of long term programs rather than 2- or 3-year projects and the expanded support of men who will train for investigative careers.

2. *Application of knowledge.* There is need to press hard so that we may apply what we already know. If the knowledge at hand and that derived from research is to be applied, the deepening shortages in professional manpower must be offset. We are caught with the need to expand services and we lack the personnel to do so. The deficit in manpower within the health services is in part due to the fierce competition for the top students graduating from college. The bright students who drop out must be stimulated to complete high school. Opportunity and encouragement should follow to enter and to finish college. The science manpower pool, from which medicine, psychiatry, and the associated health professions draw their recruits, must be filled through a national effort. Shortages in scientific and health services will increase, we are warned, as the population expands. This will occur before recruitment can hopefully solve the long range demands for professional help. This leaves us two hard choices for the present: Better utilization of the few trained personnel at hand; the wider use of other persons than those professionally qualified. The more efficient use of psychiatrists and of associated specialists calls for bold experimentation in new methods of providing service. New organization plans and efficient application of the technique of work simplification and work performance studies are desirable. Overlapping, duplicating, and wasteful practices must be eliminated.

3. *The support of community psychiatry.* In a few years the proportion of psychiatrists in hospital and in private practice has reversed. General hospital and clinic facilities for mental patients have been expanding. "Immediate professional attention should be provided in the community for persons at the onset of acute mental illness" (3). Emergencies must be met. The center that provides outpatient service, day hospitalization, and a home visiting team may

be the decade's greatest advance in service. Much talk about community psychiatry replacing mental hospitals is speculative. The great majority of psychiatric patients seen by the private practitioner in his office, those seen in the outpatient department and in the general hospital are not those with the serious forms of mental illnesses that cause the community distress. The retarded and the psychotic are avoided by many men in practice and by community agencies. The psychoses are the hard core of the mental illness problem, along with mental retardation, the aged, alcoholism, and mentally ill offenders. While the number of individuals with psychoses accepted for treatment in general hospital has increased from less than 15%, it is still under 25% of the total number of patients admitted for psychiatric treatment.

The years ahead will develop and extend a community psychiatry which provides treatment for the psychoses at home, in the psychiatrists' office and in the general hospital.

The willingness to change, the availability of resources in manpower and the ability to pay the increased cost of care are presumed in support of the trend toward care of the more serious mental disorders in the community. The public mental hospital operates at an average cost of \$5.00 per patient day. Arguments have justified trebling the figure in ten years to \$15.00 per patient day. In 1962 the general hospital must collect over \$30.00 per day to meet expenses and in a decade predictions indicate a day of patient care will cost a staggering \$60.00. Not many of the families who form the clientele of the Boston State Hospital could afford care at that rate.

4. *Shared financial support.* In a free society, treatment under private auspices is vital. Voluntary insurance plans can lighten the burden of expense. General hospitals, however, cannot afford to provide long and costly care for indigent persons. The states and provinces alone are unable to "double their expenditures in the next five years" (3) without help. Private enterprise, local effort and insurance schemes must cooperate to meet some of the increased costs. As the principal resources for taxation are at the disposal of the federal government, the

Joint Commission calls for a major assist to program development. Federal support to supplement state and private resources is imperative to the translation into action of the needs in research, training and service.

Some fear that intervention by the federal government will destroy local initiative and will usurp program planning. The Joint Commission asks for the creation of an Advisory Committee to guide federal and local cooperation. Obviously, controls are necessary when public money is expended. With remote central control the danger is forced uniformity and regimented mediocrity. Without controls funds may be used for patronage or the perpetuation of outmoded institutions. Who, then, is the best judge of how new money should be spent? The integrity and wisdom of local planners must either be assumed or the approval of a government agency obtained as a prelude to a matching grant.

The United States provides financial aid to many foreign countries and believes it to be within the means of the people. The country can afford a five billion dollar farm surplus program; it can afford the luxury of preparation for a visit to the moon. The United States can also afford a program of conservation of human resources, if the people want it.

One is not expected to agree with all of the statements made by the Joint Commission on Mental Illness and Health. Areas of disagreement have been touched upon in commentaries and discussed in dissents to the report(5). I would speak about three controversial areas. Who shall treat the mentally ill? Can all psychiatric illnesses be treated in general hospitals? How should the APA "make special efforts to explore, understand, and transmit to its members an accurate perception of the public's image of the psychiatrist?"(3).

1. Who shall treat the mentally ill?

Because 71% of individuals who seek help for an emotional or psychological problem go to the clergy or to a physician, it makes good sense to assist these helping professions to increase their effectiveness. It is also necessary to help them recognize serious disorders and to increase their awareness of the significance of failure to respond. The seriously ill and the refractory patient can

then be speedily referred to the nearest psychiatrist or psychiatric facility.

We have already said that new programs in general hospitals and in mental health centers must be staffed from the existing pool of professional workers. Greater effort has also been urged to meet the communities' needs for assistance with its major problems—the retarded, the delinquent, the offender, the alcoholic and the aged. The forthcoming Graduate Training Conference sponsored by the American Psychiatric Association³ and the Canadian Society will explore the unmet needs of psychiatry and other aspects of training of residents in December 1962. (I have the honor, shared with Dr. Malamud, of being the Co-Chairman of that important conference.)

More help to meet expanding demands can be expected by challenging both psychiatrists in private practice and in mental hospitals and clinics to change their roles. Specialists in private practice must help treat psychotics, and hospital psychiatrists must help treat patients in the community. Both must train and supervise others who multiply their effectiveness by carrying out treatment procedures. A defect in training presently produces medical men who are uncomfortable in these situations. But role change alone will not meet the demands for service. The task is greater than the resources at hand. It is for this reason that I see as inevitable the delegation of more responsibility to the helping professions.

The nurse clinical specialist can serve the individual and the group of patients in hospital, in the day hospital, in the home treatment service, and in the aftercare clinic. Nurses may welcome the more exciting challenge these new roles offer in contrast to the frustrations of ward administration in a public mental hospital. Nurses, social workers and psychologists (with training, practical experience and demonstrable competence), under the auspices of recognized mental health agencies, should be permitted to treat patients with short term psychotherapy(3).

The principle of diagnosis and evaluation

³ Conference expenses, in the United States, will be met by a grant from the National Institute of Mental Health.

of mental illness by medical experts in psychiatry is not to be abrogated. Medical responsibility is fundamental in the management of mental illness. Many aspects of treatment, however, can be delegated with safety to competent associates. We have been happy through the years with the team relationships in the mental health clinic. We are distressed when attempts are made to separate out psychotherapy from the main stream of medicine as the basis for independent private practice by *any* professional group. Symptoms of stress and disturbed behavior frequently develop in the setting of physiological and pathological disorders. The patient with anxiety due to hyperthyroidism or one, for example, with a depression following steroid administration must be protected from persons who believe all symptoms of mental illness are social disorders and all mental illness treatable by psychotherapy alone.

2. Can *all* psychiatric illnesses be treated in general hospitals?

This question is guaranteed to arouse bitter disputes. Some say *all* can be treated in general hospitals and that the time has come to abandon public mental hospitals as obsolete and unnecessary. It is probably true that with a selective admission policy and an excellent intensive treatment program, the number of patients with psychosis who require further care in a mental hospital can be reduced to less than 10%. Is it to be assumed that the general hospital will also provide care for the brain damaged, the chronic alcoholic patient, the sexual deviate, the chronic neurological patient and the aged who require care in chair or bed for an indefinite period? If so, it may prove extravagant to attempt prolonged care in expensive new medical facilities where costs of 30 to 40 dollars per day are not unusual.

The notion that the present public mental hospitals should be converted to chronic disease hospitals has met with opposition from all sides. Some say the idea represents another form of rejection of the mentally ill with psychosis. Before the Joint Commission's recommendation that the large public mental hospital be converted into a chronic disease hospital is accepted, there should be some experimentation with different organ-

izational structures and evaluation of their operation.

For example, the common elements in the response to the process of rehabilitation might be studied in a center grouping together chronic medical, neurological and psychiatric diseases for treatment under experts in that field. Another example could break up a large public mental hospital into separate hospitals, each with its own mission and its own staff. The complex could be known as a hospital center and share supportive utilities and services. The independent units could include: a trauma section for all emergencies, an acute intensive treatment hospital, a geriatric hospital, a rehabilitation hospital, and a long stay annex for the care of chronic diseases. I would emphasize that the mental hospital or the hospital center are only a part of the total mental health plan of today and tomorrow.

This time around, let us concentrate on brains and people before we build new multi-million dollar structures. It is best, perhaps, to sponsor the functional growth first and let the structure be built in the next decade to support the function that evolves. We may also discover that the public mental hospital still has an important place in the treatment continuum of the mentally ill. I firmly believe that it does and that it merits the necessary financial support to carry out its essential mission.

Let us build no more big isolated mental hospitals as we concentrate on the development of community psychiatric services. The part time staff, the open staff, and the associated specialties required for the practice of medicine work more effectively in the mental hospital and in the community general hospital and its clinics when distance doesn't cause the loss of precious man hours. Distance is important also to therapy with families, day care, aftercare, and in maintaining liaison during the transition from hospital to home.

3. How should the APA "make specific efforts to explore, understand, and transmit to its members an accurate perception of the public image of the psychiatrist?" (3).

The image of the psychiatrist is not a portrait of an idealized being transmitted via the mass media to the many publics. Image building can only be aided by the

public relations man.⁴ What a man is, what he believes in, and what he does creates an impression upon those he serves, those associated with him, and those who behold the relationship. It is the projection of the doer and the deeds that is the image.

Why should American psychiatry be concerned with its image? Let's first take a critical look at the things people say they don't like in us:

A psychiatrist is a physician, yet he often does not behave like one. He may excuse himself from helping with hospital emergencies when there is no else available; he may not attend medical meetings as other specialists do. The psychiatrist may not come to the aid of a physician with a mentally ill patient. The type of patient, his inability to come to the psychiatrist's office, or a full schedule for weeks ahead are excuses given for not offering help. This leaves the physician with a poor opinion of psychiatrists and of their usefulness as consultants. Some psychiatrists charge a medical colleague patient or a physician's family for consultation and for short term treatment. Many psychiatrists desire exemption from the centuries old ethical traditions of no charge to doctors and their immediate families. Massive medical opinion is mobilized against psychiatry for its stand that all should pay for prolonged intensive psychotherapy.

The public is suspicious of omnipotence in physicians. Irritation develops when the psychiatrist declines to speak with the family physician about a patient or with his family. Society's cherished value systems are not to be trampled upon and there is fear that some psychiatrists do so.

The cartoonist's characterization is that of the psychiatrist who sits and dozes at the head of a couch on which a wealthy neurotic woman reclines reciting trivia.

There can be a very different shadow

⁴ With the restriction of time and space in a presentation of this sort it is not possible to develop the important themes of public education and public information in image building. Translation of professional jargon into understandable language is one of the tasks of the public relations specialist. The PR man also helps us interpret aims and needs to our many publics and give necessary assistance to get the public support essential to sustain a psychiatric program.

cast by the average psychiatrist. The new image of the psychiatrist would stress ability as a well trained physician with the technical knowledge and expertness required of a specialist. As a consultant, he would function as other specialists when called by a colleague. A major part of his practice might well be in the office, clinic, general and mental hospital. He would be no stranger in the home and would be available to meet psychiatric emergencies. A generalist in the field of psychiatry, he would accept for treatment those with major mental illness.

Patient oriented, available for help and attuned to community needs, the psychiatrist devoted to his profession kindles enthusiasm and serves as a model for identification to the young man seeking a career. The new image would be incomplete without a positive program of medical leadership in pursuit of excellence. This requires the courage to expose one's own shortcomings. When one sidesteps deficiencies it may give the impression of condoning wrongs. Lastly, research is the high adventure in today's scientific world. Psychiatry must develop men who can take their place alongside of the biochemist, social scientist and neurophysiologist.

NATIONAL AND INTERNATIONAL MATTERS

The emphasis that I have given to the report, *Action for Mental Health*, has brought into sharp focus the national concern of the American Psychiatric Association. The Joint Commission on Mental Illness and Health is of importance to United States members. Through the years, as the APA has grown in numbers and in strength, it has frequently presented its views before Congress. Its concern with matters of interest to United States citizens has absorbed most of its energies. At the same moment in history, in the sixties, nationalism in all countries has increased. Canada, too, has moved apart from the close relationship it once felt toward the United States.

Prior to 1945, with the exception of the few in Toronto and Montreal, nearly all Canadian psychiatrists worked in mental hospitals. In the past 17 years, all 10 universities in Canada have developed depart-

ments of psychiatry, all provinces have expanded psychiatric services and private practice has extended to the large cities. The new elements found expression in the Canadian Psychiatric Association.

The dilemma of national and transitional APA interests has been the subject of other presidential addresses. It is a continuing concern of a handful of statesmen within the association. The need for discussion exists. We should steer a course in international policy that avoids the shoals of estrangement. A forthright report of the liaison committee with the Canadian Psychiatric Association directed attention last year to the separateness. I was startled by the import of an action by the Canadian Psychiatric Association making Honorary Members of two past presidents of the APA. Last year the Committee on Constitution and By-Laws and the Membership Committee were concerned with association boundaries. Why not admit *all* the Americas? Some friends in the Philippines might also wish to join us. Would they be invited?

The double role of national and international interests gets most involved and troublesome. Great tact and diplomacy is required to deal with problems which inevitably arise when a large group offers to absorb a smaller one which has local pride and a different tradition(6). Whenever the formation of a District Branch outside the United States is under discussion, conflicting loyalties emerge.

Canadians and American are quite separate in their national interests. Canadians relate to their own local association in each province and all are affiliated with the Canadian Psychiatric Association. The long tradition of autonomy in Quebec has kept its affiliation to a token; while ties to the central organization vary elsewhere, they are growing stronger each year. The concern of many Canadian psychiatrists is directed toward the Federal Hospitalization Act which will pay for the cost of care for psychiatric patients in psychiatric divisions of general hospitals. The act does not cover care in mental hospitals where the cost remains the responsibility of the Provincial government. The need to develop mental health services in Canada is another press-

ing matter before the Royal Commission on Health Services(7). The national survey being made by a committee on Mental Health Services in Canada under Dr. J. S. Tyhurst is an action to fill the need(8). Neither United States members nor the association as a whole have taken any action on these important political-medical questions. It probably never occurred to a Canadian member that the APA should express an official view, for the Canadian Psychiatric Association is their acknowledged voice in government.

Members in the United States are properly concerned with the government's policy on disarmament and on civil defense as well as with the Joint Commission on Mental Illness and Health. We are active on behalf of the Kerr-Mills medical care of the aged or in clarifying the testamentary capacity of clinical psychologists before the courts.

The time has come to give thoughtful consideration to the best solutions to national and international responsibilities of psychiatry. If Canadians feel their interests are better served by leadership arising from their Canadian Psychiatric Association, then the membership of the American Psychiatric Association should accept this reality graciously. To make it possible to discuss the matter frankly without feelings of guilt, I am proposing that the American Psychiatric Association become the national organization representing psychiatry in the United States. In this view members from Mexico, Central and South Americas might be expected to look to their own national organizations also for leadership in psychiatry.

Having recommended an organizational break up of the transnational structure of our Association in favor of a stronger chain of national organizations, in which the American Psychiatric Association would be in structure, as it has been in most of its functions, the national association for the United States, I would at the same time work for a more diplomatic, and mutually respectful, mode of participation with other national units on the American continent. For this purpose, the role of the committee on International Relations should be greatly strengthened. It must be much more than

a committee to honor guests at the annual meeting. Under vigorous leadership, this committee should develop policy and recommend action by the Association in relation to sister national societies and in world affairs. The resources of the American Psychiatric Association, reconstituted as the national association for the United States, should be made available to other psychiatric societies on this continent, without any arrogant presumption of hegemony, in a spirit of mutual neighborly respect and cooperation. We in the United States might learn much from the experiences and the thinking of our Latin American friends by the improvement of communication and rapport. I foresee, as eminently desirable, the formation of permanent sub-committees of the International Relations Committee, in liaison with: the Canadian Psychiatric Association, the Mexican Psychiatric Association, the Latin American Psychiatric Association, the World Psychiatric Association.

Such development may proceed over several years if Canadian members of the APA choose to ask that their allegiance to the C.P.A. be recognized. The APA may then respond by action to affirm its national status. The first permanent liaison sub-committee, that with Canada, must then be strengthened if this step is completed. Other steps should follow at the appropriate time. The World Psychiatric Association, a newcomer, was born in 1961 in Montreal to represent psychiatry on the world scene. It would be appropriate to activate a permanent subcommittee in liaison with it, for there are significant international matters of concern to psychiatrists now quite apart from stimulating vacation travel to scientific assemblies.

Communication of research findings in various languages, retrieval techniques for literature in libraries, standard building, commonality of laws to abolish discrimination that would exclude the mentally ill from benefits afforded the physically ill, the conservation of human resources, and the position of psychiatry in support of disarmament in all nations and toward the reduction of world tensions are but a few of the international interests of psychiatry.

Once the break up of the APA is effected into national components, I would

expect international relationships to move forward more smoothly than they do now. A Pan-American Section in the World Psychiatric Association, as a federation of national organizations, might be expected to develop rapidly and to hold regional conferences, once the fear of domination and colonization were removed.

Under the proposal, the APA would continue to offer assistance and its resources, upon recommendation of the Committee on International Relations, when invited to do so by neighbors. The association would seek advice from its honorary and corresponding members in many lands. Canadian and Latin American psychiatrists would be invited to participate in the scientific and social aspects of the annual meetings. The Journal could keep members posted with events of interest by way of national correspondents.

Shed no tears for the recommended separation of the American Psychiatric Association as we meet with our brothers together in a happy occasion in Toronto that expresses our common interests. Canadians and Americans discussed plans for mental hospitals together when the association was formed over 100 years ago. It was assumed that research, training, and standard building would always be the basis for joint membership. We can be proud of the fruitful years of sharing.

We have served our members well. Medical care has become an exportable asset and an instrument of foreign policy. As the world has constricted, ideological positions have threatened the informality of friendly neighboring relationships. Each local group prefers to do its own work, carry out its own training and express its own individuality. If a changed role is chosen, the American Psychiatric Association will still use its resources as a powerful force for good on the national scene, will give assistance to countries who request it, and will accept its full measure of responsibility in international matters.

Now I wish to turn to the third major topic in this address. Last year Dr. Kety(9) called attention to the strange behavior of the psychiatrist once he believes he understands a mental disorder reasonably well and explains the etiology and pathogenesis of a disorder. When this has been done, the

disorder ceases to be a part of psychiatry. "It would appear," Dr. Kety said, "that only mysterious ailments are psychiatric in nature."

"The training of so many psychiatrists in this generation is so predominantly in psychodynamic theory to the exclusion of the biological and even the social sciences that he feels uncertain or aloof in the management of disorders in which the important factors in etiology are biochemical or microbial" (9). This aversion is startlingly illustrated by the avoidance, in training centers and by residents, of the senile and arteriosclerotic disorders. Mental illness is the number one health problem and of all mental disorders requiring hospital care, the patient over 65 forms the largest group. The magnitude of the defect in training and the disinterest in problems of aging compels me to emphasize psychiatry's concern.

PSYCHIATRY'S CONCERN FOR THE AGED

Social and Political Action. Social change often results from political action. Social and political issues have a relevance for medicine when they concern matters of health, including the control of disease. The Housing Act and the Kerr-Mills Medical Act for the Aged Law were two important accomplishments of the 1961 United States Congress. Currently, President Kennedy seeks support for an amendment to the Social Security law that will make the Federal Government responsible for payments for hospitalization and nursing home care, outpatient and diagnostic services for those eligible for Social Security retirement or survivorship payments. Senate Bill 2779 would establish the United States Commission for Aging. It proposes to develop policy and legislation to make possible grants for the development of programs for the care of the aged.

I have repeatedly stressed, in the Journal pages and in my talks, the importance of taking a position on vital social issues. In a large organization the rapid accumulation of facts upon which to base a decision and the translation of policy into effective action are not easily accomplished. The appropriate committees must be prepared to offer speedy assistance as need arises in between their scheduled annual meetings. The APA

Central Office staff members are willing fact gatherers. With basic information in hand, the Council or its Executive Committee or the President can state an official position. The Public Information Committee and staff experts disseminate policy statements; Association leaders sometimes interpret them in person before a legislative body. Two examples of statements of position illustrating how our society should express its concern in current political action effecting the aged follow:

We stand opposed to the use of the Federal Social Security System as a mechanism for financing a compulsory health-care program. We join organized medicine in stating our belief that the growth of voluntary health-insurance plans is preferable to undue reliance on government for aid. Financial assistance should be available to those who cannot pay for hospital and medical care. The individual has a primary responsibility for his own health and those who can do so should pay their own way. Excessive dependency can be an evil that corrupts character and undermines health.

We support the principle that medical care for aged persons should be available to them in accordance with their needs and the nature of their illness. Physicians who care for elderly people must be free to choose the most appropriate hospital or facility that is available without regard to the nature of the illness, whether psychiatric, medical or surgical. Mental patients are excluded (along with tubercular patients) under certain conditions from benefits of Federal Public Assistance. The Kerr-Mills Bill continued the exclusion. The King-Anderson Bill (HR 4222 and Senate 909) is defective in that it excludes reimbursement in mental and tuberculosis hospitals for the treatment of the elderly. That general hospitals with psychiatric wards might also be denied reimbursement, if the otherwise eligible patient bears a psychiatric label, is also possible. We believe that any health legislation should refrain from excluding the mentally ill from benefits available to those with other forms of illness.

Assumptions and Objectives. On the basis of observed facts, assumptions may be made

that may then serve as objectives in management and in treatment. Comprehensive planning of programs for services to the aged is more effective when based upon objectives thus derived. Table 1 relates objectives to assumptions based upon observable physical changes in the process of aging. Table 2 gives examples of psychological changes with the derived assumptions and objectives. Table 3 does the same for social

factors with relevance to the aging process.

Training in Geriatrics and Gerontology. Training of residents in psychiatry must be broad enough to prepare them to meet the major problems in that specialty. The mental disturbances associated with aging comprise the largest group of *all* psychiatric disorders that require hospital care. The diagnosis, evaluation and treatment of the elderly patient must accordingly be a part

TABLE 1

PHYSICAL FACTORS OBSERVED IN AGING	ASSUMPTIONS	OBJECTIVES
Constitutional differences suggest a biological basis for aging(10)	There is a variability in physiological response and performance capacity	Select as parents the offspring of families who are long lived
Vigor declines through change in the properties of multiplying cells: mutational or epigenetic change	Variability arises from differences in genetic constitution and environmental influences	Awareness of individual differences
Irreplaceable loss occurs in non-multiplying cells: neurons	The organism dies when stress magnitude exceeds his ability to compensate to it(12)	Research in cellular and intracellular structures
Primary changes occur in intracellular substance: collagen(11)		
Perceptual loss	Exclusion of stimuli leads to isolation	Maximize vision, hearing and movement (cataract operations, glasses, hearing aids, dentures, muscle reeducation)
Energy loss	Limits to life exist in terms of energy conversion(13)	Reduce exertion. Rest periods. Graduated exercise. Accept reality of mutual withdrawal and disengagement
	Failing energy curtails social contacts(14)	
Homeostatic balance easily upset	Vulnerability to disorders and diseases increases with age	Periodic medical evaluation Prompt treatment of disease
Occurrence of chronic diseases	Life span is related to the age of onset and progress of the lesions of major diseases(13)	Rehabilitation to overcome disability Older people don't go to the doctor in time, often because they feel their complaints are unimportant (15) Any plan which provides health care should not exclude the mentally ill(16)

of the training of every resident in psychiatry. No man can be considered properly trained in 1962 if he has a blind spot for a third of all hospitalized cases.

Social gerontology is an organized field of knowledge which deals with the behavioral aspects of aging. The multidisciplinary approach of the social sciences adds dimensions to understanding. Special opportuni-

ties for learning in institutes sponsored by universities, or training at the graduate level in two-week courses in geriatric psychiatry and geriatric neurology are desirable. The APA Committee on Aging can do a service to the psychiatrist, interested in reading selectively in the vast literature on the subject, by publishing a reading list at intervals.

TABLE 2

PSYCHOLOGICAL FACTORS OBSERVED IN AGING	ASSUMPTIONS	OBJECTIVES
Reduction of input of stimuli	Rate and variety of interaction will lessen with age(14)	Avoid isolation. Keep in main stream of life Opportunity for freedom of choice and of exercise of control of environment Lights accessible, a radio; supplement resources Constancy—less change A predictable world is less threatening and more secure
Decline in sense of mastery and devalued self image Lessening physical attractiveness and vigor Reduction in speed of response Withdrawal of attention	Ego supporting relationships will defend the faltering ego from attack Resignation from responsibility occurs(14)	Emphasize positive assets and achievements Provide service from same agencies that serve other groups
Bereavement—loss of family and friends by death	Love and approval and the rewards of work, essential to ego strength, tend to disappear	Find a person to be a friend Useful work within limitations Deal with patient in the area in which he can still function
Role change forces disengagement (14)	Change in self perception occurs and loss of responsibility is mourned(17) In the aged egocentricity and egocentricity are more tolerated than in youth When interaction with others is high, deviance is not acceptable (14)	Preserve independence and freedom of action and initiative through support A socially approved role restores self confidence(18)
Reduced adjustment potential with regression and dependency(10)	The strengths and weaknesses of early life determine later life adjustments(10) The narcissistic person is easily insulted and outraged(17) Mental illness is related to psychological stress, loss of self esteem, loss of usefulness and loss of zest for living(19)	Reestablish sense of significance Retain in hospital or long stay annexes only those who need it

TABLE 3

SOCIAL FACTORS OBSERVED IN AGING	ASSUMPTIONS	OBJECTIVES
Cultural attitudes toward aging create stress(20)	Contemporary American social values do not prepare people for successful or even comfortable aging(20) The future oriented, doer types and the cult of youth and beauty as status symbols are favored in American culture that devalues the senior citizen(21) Successful aging is most common in upper socio-economic groups who plan ahead(20) People with inner resources use them in old age(10) Society withdraws from the older person(14)	Enhance prestige of wisdom and experience, character and their person Public attention to successful models of aging
Compulsory retirement	The loss of livelihood and the loss of goal directed activity fosters dependency and regression	Work as long as possible Gradual retirement(22)
Break up of extended family	Older people with daughters make least claim on welfare services(18)	Keep in touch with family and friends
No longer a cohesive economic and social unit with capacity to give adequate care to the aged(18)	Decrease in social life space contributes to isolation and reduced interaction with others and leads to self absorption	Government should support the family and help the old person care for himself, not attempt to supplant the family with state services(18)
One family housing	Disruption of kinship ties tends to diminish responsibility for the aged	Add a room to the home by building an extension for the old person Cultural conditioning to expect family will provide a place for its elderly members
Economic factors	Poverty and malnutrition serve as one source of anxiety for it engenders loss of security. It also results in the inability to attend to medical needs that may extend into mental and physical illness	Planning for old age A central agency for senior citizens A place to turn for help
Housing within means		The elderly should live in own home as long as he is physically and mentally able to do so(18) Housing for elderly that avoids isolation from the community(22)
Subsistence		Social Security and Survivor's Insurance Plans Pension plans Voluntary Health Insurance plans Federal assistance for those who need it and can't pay for it
Hospitalization and medical care		Institutional care only for those who truly cannot be helped to care for themselves and who have no one to assist them

Training of administrators with a special concern for planning health services and systems of management for the senior citizen is also most important. The shortage of persons willing to run a public mental hospital has been so extreme that we have assumed that anyone who occupied the position was an administrator. Tradition bound rationalists often defend themselves and their inadequate institutions from new ideas and from change. The care of the aged has often been dreary fatalistic custody. Trained and inspired leadership is sorely needed. There are few true experts in this great area within the responsibility of psychiatry.

The Positive Role of the Public Mental Hospital. There is an oft repeated stereotype that our public mental hospitals admit thousands of old people who ought not to be there. The physically ill old person, confused, with severe memory impairment and without a family is seen as the one who gets to a mental hospital by default of alternate community resources. It is commonly believed that elderly persons are sent to the mental hospital without any prior attempts to cope with their problems (23).

The majority of the aged are in the mental hospital because they need to be there. Many who are over 60 years old came in when young and grew old in the hospital. With better treatment this group will decrease in number. The elderly presented for admission have severe mental and emotional problems. Hospital treatment is essential for a time. Seldom is the patient able to participate in the planning for his own hospitalization. Families turn for help when they have exhausted themselves in care. Social agencies and general hospitals usually do not seek to send an individual to a mental hospital unless there is an illness, with symptoms that are manifestly disturbing and not responding adequately after a trial of therapy.

Seventy-six percent of persons, over age 65, admitted to a mental hospital were psychotic. Of these, 45% had a previous mental illness requiring hospitalization.⁵ The rea-

son for admissions included extreme excitement with noise and overactivity; combative or threatening behavior. One person in four wandered and exposed himself to danger (see also Vail (24)). Five percent had revolting habits. In only 15% of admissions the presenting complaint was characterized by the simple confusion and memory impairment which figured in the popular stereotype.

Twenty percent had a medical illness and one in four was bedridden or chair bound. Most patients over 65 had families and three-fourths of those admitted lived in a family, although half the time not their own (see also Mohler (25)).⁶ Most of those who lived by themselves had close contact with a family member. Only 6% lived alone in a room, isolated from family and friends.

Many elderly patients had some organic brain damage and some intellectual impairment. Most of these were able to cope with their handicaps and were competent to manage their money. In only a very small percentage did the intellectual deficit extend to interrupt the continuity of experience. They then could not remember what happened yesterday and could not plan for tomorrow. Withdrawal from the main stream of life and from significant relationships occurred. In some this disengagement fostered dissolution and regression that made them dependent upon others. When belligerence is added to resistiveness and when wandering away follows momentary withdrawal of attention, caretakers are less likely, than in cooperative patients, to continue to endure back breaking exhaustion while ostensibly providing total dependent care.

Only one admission in four of persons over 65 referred to the mental hospital represents an emergency. This fact makes feasible an interposed screening mechanism to insure the wisest and most efficient use of community resources for help. Sorely needed in every large city is an agency that can advise people where to get help when they need it. A senior citizens' center can be such a resource to correlate information

⁵ Geriatric Research at the Boston State Hospital is a cooperative project with Boston University Medical School and is supported by the National Institute of Mental Health, Bethesda, Maryland.

⁶ Another survey found approximately two-thirds of the aged who had living children lived apart from them. As age increased, more were likely to live with children or with some relative (26).

on community planning, recreation, education, employment, and health care for all those over 65. The mental health center, the day hospital, the outpatient clinic should all accept elderly patients. The home treatment service can be most helpful in evaluating a patient's need for care and in also offering assistance to the family when there is a group member who cannot or will not come for treatment.

When the mental hospital is chosen, the choice is usually made after a general hospital has determined that it could no longer tie up its beds to provide long-term care. Does admission to the mental hospital help the aged patient? Mental illnesses in old age are serious medical illnesses; about one in three patients admitted is dead within a year. One in three left the hospital within six months for home or a nursing home. (The percentage leaving is of course higher in such groups of elderly as the depressed.) Just under one in three lived on in the hospital for an average of 4.2 years.

These findings suggest that planning of hospital facilities for the aged should provide around-the-clock screening services, resources for intensive medical treatment, prompt psychiatric therapy, progressive care and rehabilitation and long stay annexes designed to promote as much self care as possible.

Flexible admission policies become important when the patient may move through a succession of community facilities. Informal voluntary admissions simplify management. Often, the family will continue to assume responsibility when the patient can be admitted without difficulty for a weekend or a family vacation period. Night care at home may be tolerated if the aged one can spend the day on the hospital ward. Better nursing care, more vigorous medical and psychiatric treatment, extensive resources in rehabilitation to overcome residual handicaps, and buildings designed to meet the special needs of the elderly patient are some of the points for improvement in the public mental hospital that carries the heaviest load in care for those over 65 with a psychiatric illness (27).

SUMMARY

1. Work actively for the adoption of the

major recommendations of the Joint Commission on Mental Illness and Health in your state and at the federal level. It offers to psychiatry the greatest opportunity that will be given in this decade to advance research, training and treatment.

2. Social change is often dependent upon political action. The American Psychiatric Association has an obligation to express itself vigorously in support of social issues with relevance to medicine. We must oppose discrimination against the mentally ill in any local, state or federal legislation.

3. The time is at hand to rethink the national and international responsibilities of the association. To sharpen discussion, I have advocated that the Canadian members be given an opportunity, if they want it, to express their primary allegiance to the Canadian Psychiatric Association. The American Psychiatric Association would then become a national society for United States psychiatrists. If this proposal becomes a reality, I would urge an enlarged function for the Committee on International Relations with active permanent sub-committees in liaison with the Canadian Psychiatric Association and with the psychiatric societies in Central and South America. I would strengthen participation in world affairs through the World Psychiatric Organization and in Pan-American cooperation. As a national society, interested in common problems, the separateness and the nationalism of countries would remain in focus.

4. Psychiatry is in transition. I would encourage movement toward closer relationship with the traditions and practice of medicine. We must first be good physicians. The pursuit of excellence in our specialty of psychiatry is our second major goal. To be worthy of the name of "Psychiatrist" the specialist must be broadly prepared to meet the major problems in his field. In this decade our psychiatric institutions should press toward the acceptable standards of quality practice. We can no longer in conscience excuse second class medicine in public mental hospitals for any cause.

5. The American Psychiatric Association expresses in its constitution the obligation to improve the treatment of patients. In this decade the physiological, psychological and

social problems of aging compel our attention. Already the dominant mental health problem in the United States is old age. From the known facts, we can make assumptions that may lead in turn to formulated objectives. The challenge to psychiatry of un-met needs illuminates some of the major issues presented.

a. Social issues have relevance to medicine. The way one practices and one's ability to achieve a standard of excellence may be determined by legislation. No plan for health care or for public assistance should discriminate against the elderly who are mentally ill. Both Kerr-Mills and the King-Anderson legislation do discriminate against the elderly patients with psychiatric illness.

b. Those over 65 years of age require service for medical disorders from the same agencies, in the same clinics and hospitals that treat younger patients. The diagnosis, evaluation, and treatment of the elderly must be a part of the training of all physicians. No resident in psychiatry can be considered properly trained for the practice of his specialty if he has a blind spot for the management of about a third of all hospitalized mentally ill patients.

c. The public mental hospital has a positive contribution to make to the treatment of the elderly patient. The stereotype of the confused oldster with memory impairment is the exception, not the rule. "Dumping" the aged into mental hospitals actually seldom occurs. The majority of the patients admitted at 65 or over need a period of hospital care, for they have exhausted families and require more specialized medical and psychiatric management than agencies, general hospitals and nursing homes are able to provide. A third of elderly patients admitted are returned to the community. With improved initial management, progressive care and rehabilitation, more may survive and recover sufficiently to leave the hospital and return home.

d. Training in administration has been neglected in psychiatry. The planning of comprehensive programs, of new programs based on new concepts of psychiatric illness, and the translation of

paper plans into effective action programs require able administrators. We must initiate the action to seek out creative and imaginative individuals with a potential for leadership and train them properly.

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WALTER E. BARTON
Ninetieth President, 1961-1962

A BIOGRAPHICAL SKETCH

LEO ALEXANDER, M.D.¹

The outstanding contribution which has brought Dr. Barton international renown has been his successful transformation of mental hospital administration into a flexible and imaginative instrument of therapy. While administration at best afforded a challenging opportunity for therapy, its routine and responsibilities were often an impediment. It is probably no accident, however, that the stimulus to use administration itself as an instrument of therapy arose in a state mental hospital, in which the accumulation of treatment-resistant patients provided a challenge much greater in magnitude and numbers than any other single therapeutic task in psychiatry. Against this challenge waves of psychiatric theory have ebbed and flowed and proven weak and ineffective; the state mental hospital may even be called the graveyard of psychiatric theories and methods. It is the immense and ever-supreme proving ground for any psychiatric method, where any theory and endeavor can so easily become outflanked or outnumbered. It is said that when Marshal Foch found himself outflanked or outnumbered, he solved his problem by attacking. Dr. Barton similarly attacked on a broad front—a newly appointed staff, intensive training, and a battery of therapeutic techniques—knowing very well that the problem was too big to be handled by any single method which in less challenging psychiatric situations often sufficed to produce a satisfactory therapeutic result.

Dr. Barton was born on July 29, 1906 in Oak Park, Illinois, the son of Alfred J. and Bertha M. Barton. It may be of interest that the physician attending at his birth was Dr. George Hemingway, father of Ernest.

Dr. Barton's interest in becoming a physician stemmed from childhood; several operations and the long convalescence for a leg broken playing football involved con-

siderable experience with doctors and hospitals and left its mark in the shaping of his ambitions. He graduated from the University of Illinois and went on to the University of Illinois College of Medicine with the intention of specializing in obstetrics and gynecology. But he was particularly fascinated by his electives at the Illinois Psychiatric Institute under the direction of Prof. H. Douglas Singer. Prof. Singer persuaded him to take, as a preliminary for obstetrics and gynecology, one year of psychiatric training in Worcester, at that time a world center. Here Dr. William A. Bryan incited Dr. Barton's lasting interest in administration and trained him. Following eight years at Worcester State Hospital, the last four as senior physician for the men's reception service, Dr. Barton took a year of clinical clerkship in neurology at National Hospital, Queen's Square in London. He then returned to Worcester for four years as assistant superintendent and was acting superintendent for part of that period. In 1941 he published "Family Care, A Community Resource in the Rehabilitation of Mental Patients," advocating community psychiatry and family care before these ideas had become generally accepted within the framework of modern psychiatry. He also published papers in organic fields, most notably syphilis. His educational activities during this period were numerous. In addition to teaching residents, nurses, and students at Worcester State Hospital and belonging to the Faculty of Adult Education at the Worcester YMCA, he lectured at Simmons College School for Social Work, Smith College School for Social Work, and Clark University.

The war helped to push Dr. Barton further in the direction of administration and rehabilitation. He became an army captain in 1942 and was sent first to Walter Reed General Hospital, then made chief of the neuropsychiatric service at Valley

¹ Boston, Mass.

Forge General Hospital. He was promoted to major in March 1943 and organized the occupational therapy department for the army. His paper "The Challenge to Occupational Therapy" was an outgrowth of this work; it advocated useful activities and skills adapted to real work assignments in place of the usual basket-weaving, tie-knitting, and belt-making. As Director of the Army Reconditioning Division he initiated rehabilitation of the deaf and blind and published "A Program for the Care of the Blind in World War II in Army Hospitals." While still a major he was asked to address a convention of the National Women's Clubs of America. His subject was service men returning home, and he followed three long-winded three-star generals on the program. In the ten minutes they left him for his speech he quickly boiled it down to ten simple pointers to remember and sat down. The response was staggering; the address was published under the title "He's Back," and reprints attained a circulation of 250,000. But Major Barton was eager to get overseas and in 1944, as a lieutenant-colonel, went as chief of the neuropsychiatric section of the 126th General Hospital. He left active duty in 1946 and was awarded the Legion of Merit for his wartime achievements.

While still in uniform Dr. Barton returned to civilian practice as Superintendent of Boston State Hospital. Conditions could not have been worse; the hospital had slipped shockingly in the hands of the political appointees of the preceding era. Dr. Barton found the patients reduced to eating with their hands and sleeping between folded mattresses to keep warm. After repeated denial of his request to the Mental Health Department for silverware and blankets, he threatened to set up a public appeal for knives, forks, and spoons in the Park Street subway station: whereupon spoons and blankets were hastily provided from ample army surplus stores. Sanitary conditions at the hospital were scandalous—during Dr. Barton's first summer there were 600 cases of diarrhea and 60 deaths, leading to prompt installation of modern, sanitary kitchen facilities, which have since eliminated this hazard.

During the first five years of the postwar

period Dr. Barton emphasized therapy and training, using his administrative position as a vantage point for the evaluation and intensification of therapeutic measures. His first step was to choose a staff of therapeutically oriented physicians. He found such physicians during the early postwar years, particularly among men interested in a psychodynamic approach to mental illness who were in or had recently completed psychoanalytic training: he looked to such men for unequalled motivation toward new and intensive treatment methods in severe mental illness. Thoughtful organization of the staff, newly comprised of carefully selected key people, established the ward as the unit with the combined efforts of doctor, nurse, and social worker directed toward the patients at a group level. A cabinet of four division heads was appointed, under whom were department heads at the middle level of management. The new emphasis on therapy was carefully grounded on improved diagnostic skills. Training was intensified at all levels. Visiting medical and surgical personnel from a general hospital were added to the staff, thus relieving his psychiatrists whose time had previously been swamped by non-psychiatric details and increasing their psychotherapeutic efficiency by at least 75%. Permanent assignment of medical and surgical residents of a general teaching hospital through rotating periods of six months each at the mental hospital resulted in better psychiatric orientation of these medical and surgical residents, while they in turn improved the medical orientation of the psychiatric staff. Nurses were trained without the usual added demand of duties and services. Thus the medical, surgical and psychotherapeutic capacities of the hospital were all concurrently fortified, as Dr. Barton reported in his paper "Visiting Staff Comes to the Aid of Boston State Hospital" in 1949.

In 1951 when the therapeutic measures of the hospital had attained a firm footing, research projects were begun and eventually comprised at least as much research as at any state hospital in the world. Medical research arose from the new first-rate medical facilities. Group psychotherapy, based on techniques developed in the army, was

introduced and amplified by nurses, social workers, and by occupational and recreational therapists specifically trained in this procedure, which involved the application of elements of psychoanalytic technique to psychotic patients.

Rehabilitation, long a favorite pursuit of Dr. Barton, who at this time was chairman of the American Psychiatric Association Committee of Rehabilitation, was explored, both in the hospital and in the community; Dr. Barton was particularly interested to know whether concentrated rehabilitation efforts could speed the recovery process. The project was financed with federal funds and will culminate in two monographs next year. Selected schizophrenics studied at home were found to respond to the expectations of their immediate families, with the result that those in conjugal families fared markedly better than those in parental families. This was further evidence of the suggestive power of expectation, already a major factor in the open-door policy and further observed in the hospital in the response of patients to heightened environmental expectation, such as the privilege of more attractive and homelike interior decoration in a ward.

Another aspect of research was physical treatment. Insulin and ECT had been the advances—the solid bases for the expectancy situation—which had restored the hope and confidence of therapists, and a battery of treatments had come into wide use: lobotomies were frequent, shock units in the hospital were widespread, there were two insulin units. Until the advent of the new psychotropic drugs, pioneer research was carried out on all these procedures. ECT remains the treatment of choice in selected cases of depression with an intense suicidal drive.

A program of mixed patients which entailed keeping the patient in the same group from the time of admission until discharge was found effective; it provided continuity in therapy by keeping the patient in touch with the same staff throughout his hospital stay and allowed for a balanced patient group with a range of behaviors, giving hopeful expectancy to the less well patient through the presence of the recovering one.

Programs dealing with neurological and

biochemical aspects of the functioning of the central nervous system in organic and mental illness included the multiple sclerosis clinic and a neuraminic acid study.

Twelve research projects are currently in progress. These range from clinical studies on drug usage to training psychiatric aids by group methods. The geriatric research project studied intensively from a medical, psychiatric, social and economic viewpoint patients over 65 years of age. From the study a system of management could be organized to meet the needs of the mentally ill aged. The home treatment research project was begun in 1956, patterned after Querido's work in Holland. A home visit was made by psychiatrist, social worker, or nurse. Family crises were resolved, early treatment started, and in over half the cases admission to the mental hospital avoided.

A "general practice section" associated with the American Academy of General Practice was organized at the hospital in the interest of helping the man in general practice to deal with emotional disorders.

Since the advent of drugs Dr. Barton's efforts have also extended into this area, for example as reported in his paper "The Evaluation of the Effect of Derivatives of Rauwolfia in the Treatment of Schizophrenia."

In 1960 he published *Observations on European Psychiatry*, an important book in broadening therapeutic concepts in this country. His life work will be summarized in his forthcoming book *Administration in Psychiatry*, to be published by Charles C Thomas in June 1962.

Dr. Barton has been associate professor of psychiatry at Boston University School of Medicine since 1952 and in 1960 was lecturer in the department of psychiatry at Tufts University Medical School. Among a distinguished list of administrative posts he has been president of the Massachusetts Psychiatric Association, Massachusetts Society for Research in Psychiatry, Massachusetts Occupational Therapy Association, the Group for Advancement of Psychiatry, and the New England Society of Psychiatry.

Fewest papers besides those already mentioned among the 80 that have come to publication and reflecting a characteristic-

ly broad range of interest and investigation are "Education of the Public; A Function of the Public Psychiatric Hospital," "The Need for Uniform Discharge Statistics in Public Psychiatric Hospitals," "Psychiatric Residency Training in Affiliated Centers," "The Needs of Mental Patients: Expression of Human Needs," "Observations of the Therapeutic Aspects of Administration in Public Mental Hospitals."

Dr. Barton's wife, Elsa Benson Barton, was formerly assistant principal of nurses at Worcester State Hospital; they have three children, John, 28, Gail, 25, and Paul, 15.

In spite of his great role as leader and administrator and his proven mastery of difficult tasks and situations, Dr. Barton's personal manner is surprisingly unassuming, and he is always readily available to confer with and advise colleagues and staff members. By close attention to administrative details and his ever-present availability, he serves both as an example and as a source of support to his staff. His interest in other people and his capacity to understand and know them is immense. In making rounds with him one is impressed with the fact that he knows every patient intimately, even those on the back wards, whose gradual emergence to more responsive living, punctuated by periodic setbacks, he follows with keen and optimistic interest.

A similar spirit of approval and encouragement extends to his staff: he has never to my knowledge reacted negatively to any constructive idea from anyone, and he has welcomed and encouraged the initiative of those under his administrative and professional guidance. This chance to grow and improve themselves has established the men who have trained under him in high demand in other centers; and during a time when many psychiatric hospitals found it difficult to fill their staffs, Dr. Barton has invariably had an abundance of highly qualified applicants. He is even psychotherapeutic in his capacity to overlook or

absorb without trace the hostility of frustrated complainants, thus impressing upon his associates his own tendency to rise above such irritations. His leadership is through example and encouragement rather than exhortation and direction; he concerns himself with the problem at hand rather than the personalities presenting it and is never deterred by apparent obstacles.

In his concepts he is truly eclectic and pragmatic. In the face of conflicting psychiatric theory or dogmatic trends, religious concepts or other philosophic or sociologic views, his composure remains unassailed, and he incorporates them all into his specific mission. In his professional associations he is equally congenial and in harmony with psychoanalysts, clergymen, organicists, and Rotarians. He has never interfered with the basic philosophies of any of his associates. For this reason there has never been any serious conflict between him and his key personnel. He is positive in all his attitudes and avoids negative or defensive stands. He embodies the imperturbability which Osler regarded as a physician's greatest asset.

As one might expect in a man of such immense constructive accomplishments, Walter Barton meets every difficult situation with a natural reserve and a victorious, cheerful and confident attitude. It has been said that he always lives five years ahead of his time, thereby counting anything he sets out to do as already accomplished. This accounts for his indefatigable optimism and unconquerable good humor. While most of us are bogged down in our struggle with the present, he has confidently made the leap ahead to what he intends for the future, in this stage still unadulterated by complicating details and clearly blueprinted in his mind. His faith is with evolution—a firm conviction that just as a phototropic plant grows toward the sunlight, the way of well-intended efforts carefully executed can only be in the direction of progress.

CLINICAL-STATISTICAL ANALYSIS OF POPULATION CHANGES IN NEW YORK STATE MENTAL HOSPITALS SINCE INTRODUCTION OF PSYCHOTROPIC DRUGS¹

HENRY BRILL, M.D., AND ROBERT E. PATTON²

INTRODUCTION—GENERAL DECREASES OF MENTAL HOSPITAL POPULATION

If, in 1955, anyone had dared to predict that the 93,000 mental hospital patients in a state like New York would by 1970 be reduced to between 72,000 and 83,000, the statement would have been rejected as a flight of irresponsible optimism and contrary to all experience. Yet today this statement which appears at the end of our paper is much more likely to be questioned for the opposite reason; to many it will appear as a conservative understatement. This is the fascinating result of the profound and unprecedented change which has been taking place in mental hospital psychiatry generally during the last few years. The causes are open to debate, but the existence of this change is no longer a matter of opinion.

From this country, from Western Europe and from the British Commonwealth have come widespread and consistent reports of slow decreases of patient population, increased rates of turnover, virtual disappearance of disturbed behavior, and extensive liberalization of hospital policies. In the United States the population of the state, city and county mental hospitals has fallen from an all-time high of 558,900 in 1955 to 528,800 6 years later; during the previous half century this figure had risen from 144,098 and had been increasing by 6 to 8 thousand each year up to the year when the trend was reversed(1).

PROBLEMS IN THE INTERPRETATION AND PROJECTION OF THE NEW HOSPITAL STATISTICS

A consciousness of these large changes in mental hospital statistics lies behind much recent psychiatric thinking and colors much planning and yet it must be admitted that

the interpretation of these trends is far from complete and a number of crucial questions still remain to be fully answered. Among them one may list the following:

1. What cause or causes have brought these changes about?
2. What part has been played by the new psychiatric drugs?
3. What are the implications for the future? How far may we project existing trends?
4. What shape should the curve or curves of projection take?

Perhaps the least reliable answer lies in a simple empirical projection of the total recent rate of change, which is after all made up of many relatively independent components. Mental hospital population is not at all homogeneous; there are many kinds of illness and many kinds of patients and they are not necessarily all being affected in the same way. Most of all, we must make some assumptions about the forces behind the changes if we are to interpret them or project them. We must be particularly careful about assumptions regarding future accelerations of the total rate of decrease which on the average now amounts to some 1%-2% per year. The real hope for the future actually must lie in further decreases, but there are dangers in overoptimism since this could lead to premature demobilization of our mental hospital facilities. It would seem important that we examine the data carefully to see how far our hopes for future advance may be based on already established facts.

ANALYSIS OF NEW YORK STATE DATA MAY HAVE GENERAL APPLICATION

The following analysis of the recent experience in the New York State mental hospitals was undertaken with these considerations in mind. Although these data involve only one state, they may have more general application because the changes which have been taking place in New York coincide in

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

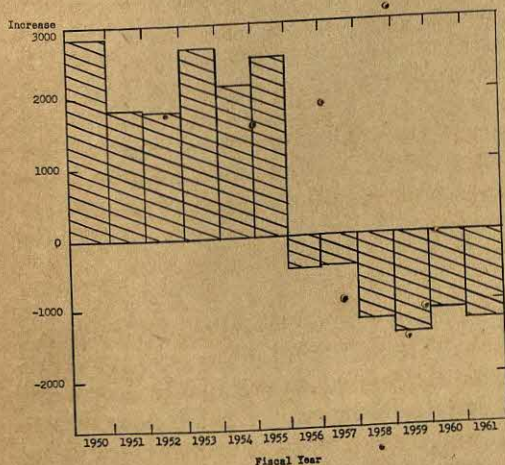
² Respectively, Deputy Commissioner, and Director of Statistics, N. Y. State Dept. of Mental Hygiene.

time with the national and international trend and seem to be of about the same nature, quality and magnitude. They began abruptly in 1956³ and the subsequent population decrease amounts to about 1½ per year.

This paper is based on the total figures for the civil state hospitals of the New York State Department of Mental Hygiene especially for the years 1955-60, inclusive. We will seek (a) to measure the identifiable changes which have occurred, (b) to determine as far as possible how these changes are distributed among the various classes of patients, (c) to examine some of the implications of this pattern of change with regard to the causes which may lie behind them, and (d) to make some estimate of the future developments which appear to be foreshadowed. The emphasis will be on the speed and direction of the existing trends rather than their projection which will be in terms of possible upper and lower limits.

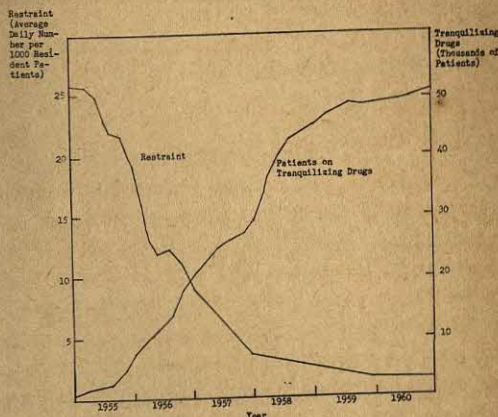
We have already reported(2) on the abrupt change which took place in 1956 coincidentally with the introduction of large-scale therapy with tranquilizing drugs. Population increase was replaced by a decrease (Figure 1), disturbed behavior was sharply reduced (Figure 2), and the atmosphere of the mental hospitals was

FIGURE 1
Annual Increase in Resident Patients



³ Apr. 1, 1955 to Mar. 30, 1956; similarly in this paper all dates are for years ending Mar. 30, unless specified.

FIGURE 2
Patients on Special Therapy and
Restraint-Seclusion Rates



strikingly improved. Our analysis of the data available at that time led us to conclude that the major change in the hospital situation and one to which the improvement could be attributed was the introduction of large-scale therapy with the then new tranquilizing drugs which were given to some 23,000 cases in 1956. It appeared then that a continuation of the overall improvement could be expected in view of the assigned cause. Two years later we reported again on this subject(3) describing a continuation of the same trends with the additional observation that a whole new cycle of favorable administrative changes had taken place and the tempo of improvement had increased. However, the development of chronic cases had been reduced by only 25% to 50% and we concluded that until this was further improved, projections for the future must be limited by this fact. We have now had some 6 years of experience; considerable new data are available and these offer a somewhat more certain base for re-examining our preliminary impressions and tracing further those developments which have been taking place.

A number of the trends have proved to be stable and progressive. Figure 2 shows how the use of psychiatric drugs has steadily increased throughout the entire period and the use of restraint has steadily fallen, although both figures now appear to be approaching a plateau. Clinical opinion is that the control of disturbed behavior has

been stable and even progressive with maintenance of therapy.

A CONTRAST 1950-55 WITH 1955-60

Figure 1 and Table 1 show that the abrupt fall of mental hospital population

measured by decrease of total population.

When we analyse the population changes during the two periods (Table 2) we find that the major population increase in the first 5-year period was 5,111 in the schizophrenic group and in the second period,

TABLE 1
Movement of Resident Patients in New York Civil State Mental Hospitals
Fiscal Years Ending March 31, 1955 through March 31, 1960

FISCAL YEAR ENDED ON MARCH 31	RESIDENT PATIENTS START OF PERIOD	ADMISSIONS	DEATHS	ALL RELEASES ALIVE	ALL RETURNS	RESIDENT PATIENTS END OF PERIOD	CHANGE IN RESIDENT PATIENTS
1955	90,893	21,459	8,078	16,069	5,109	93,314	+2,421
1956	93,314	21,454	8,345	18,862	5,301	92,862	-452
1957	92,862	21,828	8,555	19,785	6,059	92,409	-453
1958	92,409	23,286	9,421	21,732	6,650	91,192	-1,217
1959	91,192	25,254	9,197	25,028	7,561	89,782	-1,410
1960	89,782	26,773	8,996	26,632	7,841	88,768	-1,014

which occurred in 1956 has continued ever since. The contrast between 1955 and 1956 represents a demarcation point between two periods of mental hospital history; up to that time the population trend was upward; since then it has been downward. We can now contrast two 5-year periods (Table 2).

schizophrenia accounted for the major decrease—3,376. Another fact becomes apparent in this analysis, namely, that some of the decrease of the second period was due to the disappearance of paresis which at the present time accounts for a fall of nearly 200 cases each year. This component of the

TABLE 2
Resident Patients and Changes in
Resident Patients by Mental Disorder

YEAR	TOTAL	SCHIZO- PHRENIA	MENTAL DISORDER					GENERAL PARESIS	ALL OTHER
			PSY- CHOSES OF THE SENIUM	INVOLU- TIONAL PSY- CHOSES	MANIC- DEPRES- SIVE PSY- CHOSES	ALCO- HOLIC PSY- CHOSES			
1950	82,971	48,459	11,727	3,526	3,355	2,818	3,455	9,631	
Change from 1950-1955	+10,343	+5,111	+2,843	+879	-152	+875	-287	+1,074	
1955	93,314	53,570	14,570	4,405	3,203	3,693	3,168	10,705	
Change from 1955-1960	-4,546	-3,376	-840	-62	-543	+410	-780	+645	
1960	88,768	50,194	13,730	4,343	2,660	4,103	2,388	11,350	

The first, 1950-55, inclusive, was a span when somatic therapy was limited to electric shock, insulin and psychosurgery. The second, 1955-60, represents a period marked by an introduction of drugs followed by a cycle of administrative improvement and liberalization of hospital policies. This set of figures emphasizes the sharp improvement in results of hospital treatment as

fall will, of course, dwindle and disappear in the foreseeable future—it cannot be projected indefinitely. It is the only component of decrease which now has a clearly defined end point.

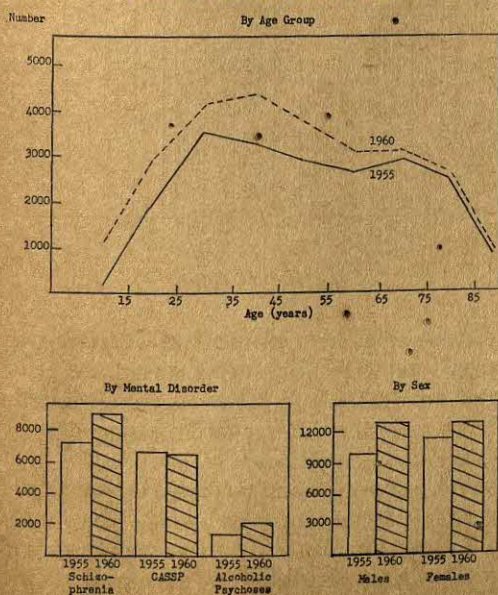
While the number of cases in hospitals has fallen during the last 5 years, the number in aftercare has risen to an equal extent and the total number "on the books" re-

mains the same. The improvement in this total has not been as dramatic as that of the inpatients although a cessation of the growth of population "on the books" is no small achievement.

ADMISSIONS BEGIN TO RISE AFTER START OF POPULATION FALL AND OTHER CHANGES

A sharp rise of admissions followed the fall of resident population, the first significant increase coming in 1958 (Table 1). First admissions rose about 17% between 1955 and 1960, while readmissions increased by almost 50%.⁴ This was due in part to administrative policies which led to discharges of noncertified patients, but it is also probably in part a measure of the newer trend toward easier releases, more rapid turnover and what amounts to more recirculation of certain cases. Even so, the first admissions increased more than twice as rapidly as the general state population, indicating a true increase of use of the mental hospitals. We may now contrast the years 1955 and 1960 in other respects (a) comparing the types of patients admitted, (b) the types of cases released and the rates, and finally, (c) the residual populations. The admissions can be compared in age distribution by two curves (Figure 3), and it will be immediately apparent that two important changes have taken place—

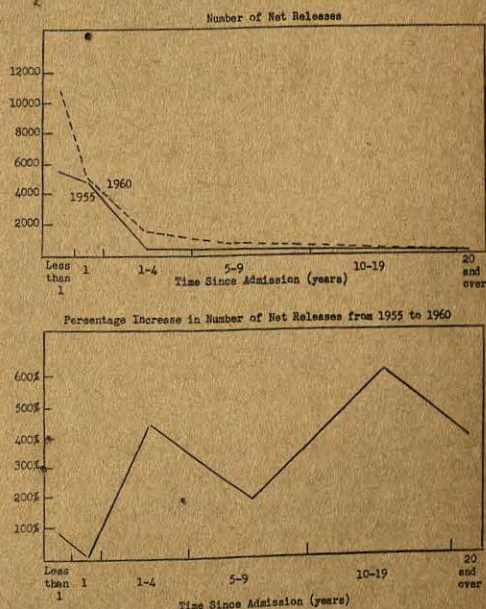
FIGURE 3
Admissions in 1955 and 1960



a sharp increase in admissions at the younger age range, and a leveling off in the upper age group. This rise of younger admissions is of special significance since the outcome of treatment in adolescent cases is less favorable than in patients aged 25-55 and their expectancy of life is very long. Admissions by diagnosis show changes also (Figure 3); particularly there is a slight (148) decrease in admissions for disorders of the senium. This may be immediately related to the increase of nursing home beds in New York State from 31,950 to 42,341 in the period 1955 to 1960.⁴ During this time also, male admissions increased by 30% and female admissions by 20%, while the number of nonwhite increased by 70% and the white by 19%. All these facts are significant because each of these groups has a different outlook under therapy and thus the overall outlook depends on the composition of admissions. Curiously enough, the outlook for release does not vary significantly between first and readmissions in the overall, although there are differences in the various subgroups (Table 6).

When we compare releases (Figure 4),

FIGURE 4
Net Releases Alive in 1955 and 1960
by Duration of Stay



⁴ It is perhaps noteworthy that this 11,000 increase did not have a greater impact on geriatric admissions.

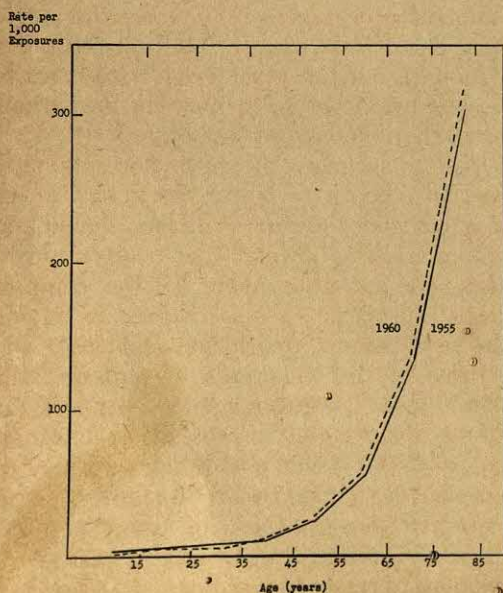
we find that in the last 5 years this component too has changed, not only in size, but also in shape. A release profile by duration shows that releases have increased particularly in the newly admitted groups and that the gain in the gross number of released cases is greatest in new cases, while the greatest proportional gains are in the cases of longer hospital stay.

DEATH RATES STABLE, NUMBERS INCREASE

Deaths have also increased in the last 5 years (Table 1). This is directly related to the fact that the median age of the hospital patients has risen from 54.9 to 56.9 years and, in turn, this is the result of a differential increase in the releases of younger patients with a selection of older cases for retention (Figure 7) and also is related to an increased life expectancy of the long term chronic cases. In this period the average age of schizophrenic patients dying in the hospitals has increased from 63.7 to 65.3, while the average time in hospital for these patients has gone from 23.0 to 25.0 years.

The profile of death rates by age group shows that there is no significant change of rate at any age (Figure 5). The increase in number of deaths is due almost entirely

FIGURE 5
Age Specific Death Rates in 1955 and 1960



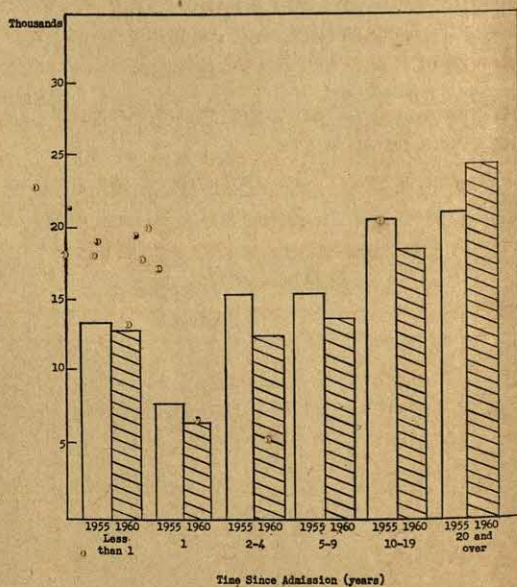
to an increase in the number of older persons in the hospitals.

The stability of death rates, especially in the younger age groups, offers a measure of certainty that no significant long term toxicity will ever be identified in the use of the new drugs. Large numbers of patients have been on such drugs for long periods, nevertheless, age-specific death rates have not risen and clinically no such toxicity has appeared.

ANALYSIS OF RESIDUAL POPULATION

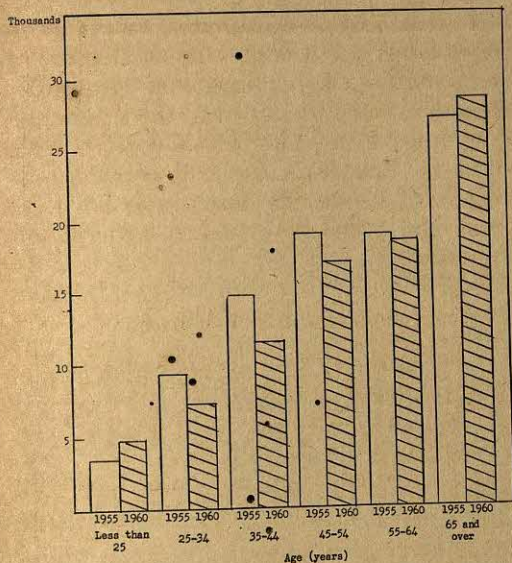
When we come to the changes in the residual population we find some of our sharpest and perhaps some of our most important contrasts. A population profile comparing the residual population of 1960 with that of 1955 (Figures 6, 7, and 8) shows

FIGURE 6
Resident Patients in 1955 and 1960
by Duration of Stay



that there has been a decrease in all groups except the very long term cases admitted prior to 1940, long before active somatic therapy was freely available, especially for maintenance. Furthermore, it is noted that the diagnostic group of schizophrenia showed the most marked fall (Figure 8). In this group (Figure 9) the youngest and oldest age groups showed increases, while

FIGURE 7
Resident Patients in 1955 and 1960 by Age



the middle groups showed decreases. The increase in the oldest group of all diagnoses (Figure 7) was due to the aging of long term schizophrenics, not an increase in psychoses of the senium (Figure 8).

THE PROBLEM OF CHRONICITY—A 5-YEAR MEASURE OF RESULTS

In many ways the problem of the mental

FIGURE 8
Resident Patients in 1955 and 1960
by Mental Disorder

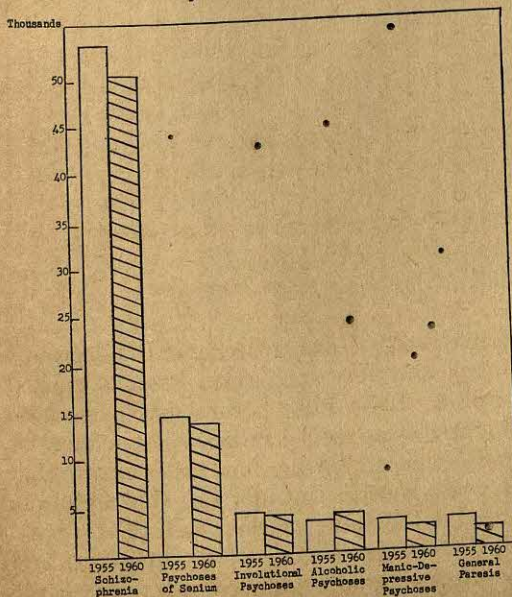
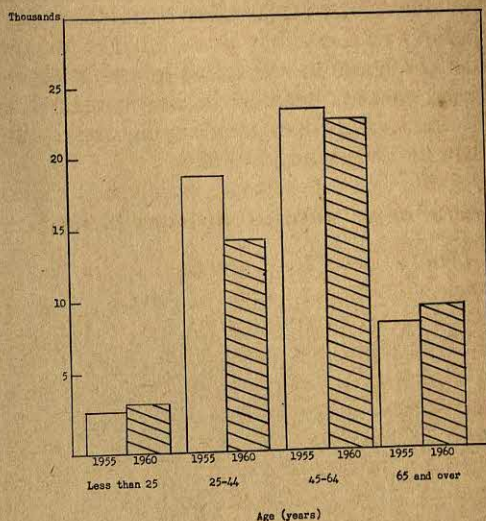


FIGURE 9
Resident Patients with Schizophrenia
in 1955 and 1960 by Age



hospital resolves itself into the problem of chronicity. After the rapid turnover of the earlier cases, the increased admissions, releases, returns and readmissions, what is the final result?

This has been the substance of many questions raised repeatedly, especially by those who have had long experience with mental hospitals. Are we really getting better results than we have ever done before or are we seeing only some statistical juggling? Are we inflating the figures by the admission of less serious cases for brief periods of time, merely diluting the older data with much new material, but yet really accomplishing nothing more for the serious cases than we have done before?

Just as surgeons measure cancer therapy results in terms of 5-year cases, so also we may consider the cases who have failed and who are in the hospital 5 years after admission. We can thus avoid all the complex statistical manipulations involved in tracing the admissions, treatments, releases, and returns of the thousands of patients who flow annually through our hospitals. In doing this we must make sure that we are not misled by the possibility that the increase from 21,000 to 26,000 admissions per year has been the result of admitting 5,000 cases of a milder type. For this reason, we propose to relate the number of 5-year cases

not to admissions, which have fluctuated so markedly, but to the base population of the state.

We can ask several questions in this connection :

1. How many 5-year cases are now accumulating annually in the hospitals ?

2. How does this number compare with the number added in 1955 ?

3. What is the *rate* at which such cases have been produced each year ? Is this rate rising or falling ?

4. The future fate of these 5-year cases is largely measured in terms of expectancy of life in hospital since releases play only a very small role in their outcome. What estimate can we make of the future size of the chronic population of the mental hospitals from a series of such cohorts ?

5. Finally, since data as to duration of hospital stay are now compiled annually, what can we observe in scanning a table in which all such data are gathered in one place ?

During the fiscal year 1955, 4,385 cases completed the fourth and entered the fifth year of hospital life (Table 3). They were the residual of 21,466 cases admitted during 1951. In 1960, the number who had shown the same degree of failure was 3,435 and they were the residual of 21,454 individuals admitted in 1956. Expressed in rates per 100,000 of the corresponding population of the state, we find that the 5-year chronicity rate fell from 27.9 per 100,000 in 1950 to 20.5 in 1955. Table 3 also shows the effect on age and diagnosis. Particularly to be noted is the rise in median age of this long term group from 51.9 to 56.5 due to improvement of treatment results between ages 25 and 54. It is also noteworthy that of the decrease of 950 in total 5-year cases, schizophrenia accounted for 672 (Table 5) although chronicity has been reduced to some degree in all types of diagnoses listed. So far we have clear evidence that the second cohort of cases exposed to the newer therapies throughout all of their hospital

TABLE 3
Patients Completing 4 Years in Residence
During Specified Fiscal Year

	1960		1955	
	NUMBER	RATE PER 100,000 POPULATION	NUMBER	RATE PER 100,000 POPULATION
Total	3,435	20.5	4,385	27.9
Age (years)				
Less than 15	26	0.6	15	0.4
15 to 24	224	11.3	174	9.3
25 to 34	405	18.1	663	27.7
35 to 44	438	17.8	795	33.2
45 to 54	540	24.9	786	37.8
55 to 64	574	34.6	686	43.0
65 to 74	618	77.2	627	89.9
75 and over	610		639	
Median Age	56.5		51.9	
Mental Disorder				
Schizophrenia	1,364	8.1	2,036	13.0
Psychoses of senium	1,015	6.1	1,048	6.7
Alcoholic psychoses	240	1.4	247	1.6
Involuntional psychoses	215	1.3	261	1.7
Psychoses with mental deficiency	153	0.9	163	1.0
Manic-depressive psychoses	80	0.5	105	0.7
Psychoses due to convulsive disorders	79	0.5	111	0.7
General paresis	62	0.4	150	1.0
All other	227	1.4	264	1.7

TABLE 4
5-Year Cohort Type Tabulation of Resident Patients

FISCAL YEAR ENDING MARCH 31	ADMITTED DURING YEAR	IN RESIDENCE ON MARCH 31 HAVING BEEN ADMITTED						MORE THAN 5 YEARS AGO
		DURING FISCAL YEAR	DURING PREVIOUS FISCAL YEAR	2 YEARS AGO	3 YEARS AGO	4 YEARS AGO	5 YEARS AGO	
1960.....	26,773	12,943	6,475	4,975	4,023	3,435	3,185	53,797
		60	59	58	57	56	55	
1959.....	25,252	12,914	6,579	4,995	4,109	3,652	3,359	54,143
		59	58	57	56	55	54	
1958.....	23,286	12,819	6,586	5,132	4,397	4,107	3,767	54,446
		58	57	56	55	54	53	
1957.....	21,828	12,483	6,709	5,453	4,898	4,397	3,530	54,960
		57	56	55	54	53	52	
1956.....	21,454	12,361	7,084	5,967	5,167	4,092	3,850	54,341
		56	55	54	53	52	51	
1955.....	21,459	13,051	7,761	6,209	4,734	4,385	3,972	53,202
		55	54	53	52	51	50	
1954.....	21,577	13,809	7,671	5,841	4,901	4,390	3,811	50,470
		54	53	52	51	50	49	
1953.....	21,309	13,638	7,250	5,922	5,017	4,212	3,854	48,975
		53	52	51	50	49	48	

Fiscal Year of Admission indicated by subscript.

lives have shown a sharp reduction of chronicity. This amounted to an overall 22% compared with a similar group admitted 5 years before and not exposed to such treatments nor to the administrative changes which have also occurred. Since the state population rose during that time, the rate of chronicity per 100,000 population has fallen somewhat more (25%).

If the stream which has been feeding the pool of chronic cases has been diminished by 22%, we may logically project from this a final reduction of the chronic group by 22% providing death rates for chronic cases remain stable. Actually the slow increase of the age of chronic cases (Figure 7) tends to increase the number of deaths (Figure 5) although improved medical treatment methods promise to decrease rates of death in the future.

The current estimate of 22% falls at the lower end of the prediction made in our second report(3) "chronicity has been reduced by 25% to 50%." This statistical conclusion confirms common clinical experience that a significant number of psychiatric patients are refractory to any existing method of treatment, and we know of no technique that claims freedom from chronic outcome.

THE QUESTION OF FUTURE ACCELERATION OF POPULATION DECREASE

Is 22% a relatively static rate or is there reason to believe that subsequent cohorts admitted after 1956, when drug therapy and administrative changes were better developed, have fared better than did the 1955 group which presumably had less adequate treatment early in their hospital lives? If we examine the tables for each of the years since 1955, we do indeed find some evidence of a progressive improvement (Table 4). The 5-year group has fallen irregularly from 3,972 to 3,185, while the 4-year group has dropped from 4,385 to 3,435. The 3-year group has a similar story with a fall from 4,734 to 4,023. The 2-year group, from which each of the others will be fed, shows improvement each year, although here we seem to be reaching a plateau. The successive drops amount to -242, -514, -321, -137, and -20. In the 1-year cases we see something of the same pattern with a fall of -677, -375, -123, then a -7, -154. The cases under one year reflect the current year's admissions too closely to warrant interpretation in this connection, though it is interesting to note that the residual at the end of each year of treatment

remains much more constant than does the number admitted during the year.

Here we find indications that further decreases in the 5-year case group may be expected for several years to come but that this improvement may be moving toward a plateau. The table also seems to imply that a plateau has already been reached with respect to the cases of less than 1-year duration and is perhaps being approached by the next two classes.

How far may we expect the chronic cases to be decreased and what characteristics do they present which set them off from more fortunate ones? We were not in a position to provide a full answer to this question, but in connection with a cohort study it was determined that no less than 3,045 of the 3,652 patients who remained in hospital from the 1955 group of admissions had never had a single placement on leave, convalescent care, or family care, or escape for 4 years. It becomes apparent that these represent a hard core of cases in which reasons against release were operating continuously during their hospital residence. Schizophrenia accounted for a third of the total psychoses of the senium somewhat more, and the rest were made up of a scattering of other diagnostic categories. A sampling indicated that they were almost universally without effective family ties. It was noted

that male schizophrenics aged 45 to 64 did most poorly.

CHRONICITY IN SCHIZOPHRENIA REDUCED—NOT ABOLISHED

Since so much chronicity is bound up with the question of schizophrenia, it is important to review the changes which have taken place in this category; the one, incidentally, which has benefited beyond all others from the recent developments. Here we find reflected the changes already described in relation to the total group of chronic cases. The greatest reduction in schizophrenia has occurred in the 2-, 3-, and 4-year figures (Table 5). The fall of 4-year cases (those entering the fifth year) amounts at this time to about 33%. Since it is through this group that the very long term cases must come, this reduction of the size of the stream will eventually reduce the residual pool of schizophrenics, which as yet has shown no significant change although within the group one finds (Figures 9 and 10) that this is due to the accumulation of old cases admitted 20 and more years ago.

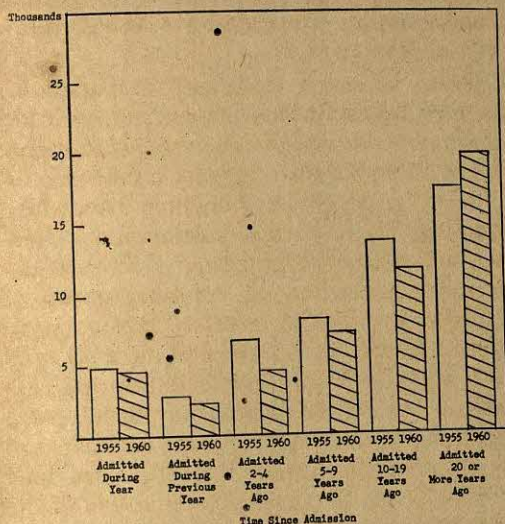
COHORT STUDIES

A useful method of analyzing population movement is the cohort study. Since this means following each year's admissions

TABLE 5
5-Year Cohort Type Tabulation of Resident Patients with Schizophrenia

FISCAL YEAR ENDING MARCH 31	IN RESIDENCE ON MARCH 31 HAVING BEEN ADMITTED						
	ADMITTED DURING YEAR	DURING FISCAL YEAR	DURING PREVIOUS FISCAL YEAR	2 YEARS AGO	3 YEARS AGO	4 YEARS AGO	MORE THAN 5 YEARS AGO
1960.....	9,283	4,844	2,311	1,727	1,433	1,364	38,515
		60	59	58	57	56	
1959.....	8,637	4,936	2,235	1,674	1,542	1,495	38,948
		59	58	57	56	55	
1958.....	7,525	4,571	2,169	1,869	1,705	1,765	39,379
		58	57	56	55	54	
1957.....	6,972	4,393	2,246	1,985	1,993	2,007	39,601
		57	56	55	54	53	
1956.....	6,787	4,358	2,540	2,370	2,246	1,960	39,413
		56	55	54	53	52	
1955.....	7,218	4,936	2,985	2,580	2,186	2,036	38,847
		55	54	53	52	51	

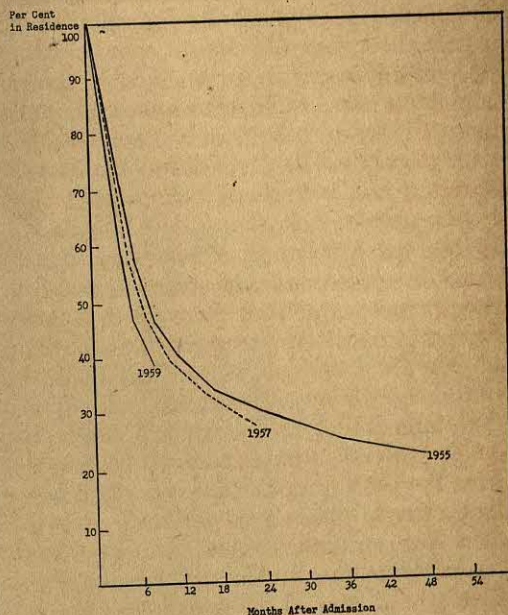
FIGURE 10
Resident Patients with Schizophrenia in
1955 and 1960 by Duration of Stay



throughout their stay in the hospital, it has two drawbacks: first, it is slow in producing results; second, it does not permit contrasting the response to change of environment or therapy because the cohorts overlap in time. The cohorts to be described in this section have been followed since 1955 but they give us no way of contrasting the effect of new treatment and administrative techniques with preceding conditions since each of the cohorts was exposed to the newer methods as they were developed. Nevertheless, each successive group after 1955 had increased exposure to the new methods and if there has been an improvement from year to year, it should be measurable. If there is any factor of acceleration of population fall, this particularly should be visible. Perhaps more important is the fact that the cohort figures will give direct evidence about the stability of releases. False impressions created by rapid release and return of patients will be corrected by these curves which measure the ability of patients to remain out of hospital.

Figure 11 (all ages, patients in residence by fiscal year of admission) shows the trend for steady improvement year by year with the spread between 1955 and 1959 amounting to some 7% at the one-year point when 34% of the 1959 cases remained in hospitals as contrasted with about 40% of the 1955 cases. It is interesting to note that the im-

FIGURE 11
Per Cent of Patients Admitted in 1955, 1957, and 1959
in Residence by Time After Admission



provement in 1956, the first year of drug therapy, was further increased in successive cohorts. There is some indication that the spread between curves will tend to diminish in the course of time (unpublished data).

Taking the age group 25 to 34, which is probably the most favorable for therapy, we find that the differences are considerably greater. Between 1955 and 1959 the number of cases remaining in hospital at the 6-month point had fallen from 56% to 36%, with some progress in each of the 4 successive cohorts (unpublished data), implying a progressive improvement of results in newly admitted cases. Here also the spread between the curves tends to diminish in the course of time. It should also be pointed out that the cohort method, based on percentages of residual patients, does not correct for dilution due to increased admissions, but this factor is not important in 1956 or 1957. It was not till 1958 that admissions began to rise (Table 1).

STABILITY OF RELEASES AT ABOUT PREVIOUS LEVEL

Perhaps one of the most persistent questions which has been asked since patients began to be released in larger numbers and

population of mental hospitals began to be reduced was, "How long will these improvements last?" The immediate stability has now been well established; the number of

patients returning from convalescent care has not risen disproportionately to the releases (Tables 6 and 7).

However, long term stability is still diffi-

TABLE 6
Cohort Analysis Showing Differences in Per Cent of Patients
Out of Hospital 12 Months After Admission
Between First Admissions and Readmissions by Age

AGE GROUP	FISCAL YEAR OF ADMISSION							
	1955		1956		1957		1958	
	FIRST ADMISSION	READMISSION	FIRST ADMISSION	READMISSION	FIRST ADMISSION	READMISSION	FIRST ADMISSION	READMISSION
Total	39	53	41	56	42	56	44	57
Less than 16	30	21	36	30	37	25	36	30
16 to 24	69	63	69	64	71	58	70	61
25 to 34	68	59	72	63	72	65	76	67
35 to 44	61	60	67	66	70	64	73	66
45 to 54	54	58	59	58	61	60	60	59
55 to 64	37	46	39	50	39	49	42	50
65 to 74	15	34	16	34	17	37	19	35
75 to 84	5	15	6	14	6	15	7	22
85 and over	3	6	3	4	3	10	3	0

TABLE 7
Patients Placed on and Returned from Convalescent Care

YEAR ENDING MARCH 31	PLACED ON CONVALESCENT CARE	RETURNED FROM CONVALESCENT CARE	PER CENT RETURNED
1952	11,809	4,428	37.5
1953	11,325	4,203	37.1
1954	11,551	4,056	35.1
1955	11,285	3,986	35.3
1956	13,105	4,280	32.6
1957	13,743	4,894	35.6
1958	13,992	5,104	36.5
1959	15,466	5,485	35.5
1960	17,078	6,371	37.3

YEAR ENDING MARCH 31	EXPOSURES *	RETURNED FROM CONVALESCENT CARE	RETURN RATE PER 100 EXPOSURES
1952	21,262	4,428	20.8
1953	20,586	4,203	20.4
1954	20,516	4,056	19.8
1955	20,509	3,986	19.4
1956	23,235	4,280	18.4
1957	25,970	4,894	18.8
1958	26,895	5,104	19.0
1959	29,341	5,485	18.7
1960	32,421	6,371	19.6

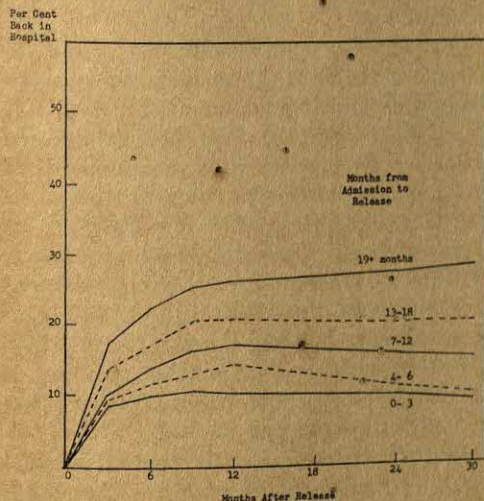
*Exposures include number of patients on convalescent care at start of year plus number of patients placed on convalescent care during year.

cult to assess since we are now in only the fifth year of follow-up of the large increase of released cases. The easiest measure of such late returns is in readmissions although this can be quite misleading. Particularly, calculations should allow for the fact that as releases increase, the population at risk rises and this alone will increase the total returns even if the risk of return per patient remains the same. To evaluate this factor fully, one would also have to determine whether the readmission is brief or long term and whether these cases have become intractable and no better off than if they had not left the hospital in the first place. While we have relatively little direct information on this whole subject, we do have data bearing on it and it all converges to the same general principle.

FAVORABLE OUTCOME IS ASSOCIATED WITH EARLY RELEASE—CAUSE OR EFFECT ?

There is a positive association between early release and final outcome and we have already described the strong relation between final chronicity and hospital stay without a release. Those cases which are released soonest (Figure 12) tend to have

FIGURE 12
Per Cent of Patients Released on Convalescent Care in 1955-1957 Who Were Back in Hospitals by Length of Time Between Admission and Release



the smallest rates of return, and this appears to include even alcoholics about whom it has long been said that the longer they remain

in hospital, the better is their prognosis for complete remission. Are these statistics favorable because the best cases are selected for early release or because there is a therapeutic value in early release? Perhaps both factors are operative. One could easily find clinical support for either point of view. However, the figures clearly show that any treatment evaluation study which does not fully control for the releases during the first few weeks of hospital life is strongly biased by this omission. Comparing total treated cases with total untreated cases may unwittingly include the best cases among those who got no treatment because they recovered too quickly. In our data it appears that a considerable number are released within the first few weeks after admission and measured by their rate of return, these are also the best cases. For some individuals it may be true that quick release spells quick relapse, but for the group, the cases released quickly have the least amount of relapse. It may also be said that perhaps society retains best those whom it accepts back most readily.

Figure 12 is clear-cut with respect to this question. Cases released in the first 3 months of hospital life have less than 10% likelihood of being back in the hospital at the end of a year and even this statistic improves slightly in each of the next 2 years. Patients released after 19 months of hospital stay have a 25% chance of being in hospital at the end of the year and this figure rises somewhat in each of the next 2 years. In Figure 12 prognosis for successful release is inversely related to duration of hospital stay.

What is perhaps most striking is that this holds good for alcoholics also. Only 9.4% of those released within the first 3 months were back in the hospital at the end of the year; with 4 to 6 months of hospital stay, the relapse rate was 19.3% and this increased by regular steps to 32.7% for those released after 19 months of hospital stay. When followed for 2 years, the figures were better for each group, namely, 8.3%, 13.8%, and 27.5%, respectively, and by the third year, the figures were 6.9%, 9.6%, and 25.7%.

We may ask, is there any indication that prognosis deteriorates with readmission? The information available to us at this time

is to the effect that first admissions have a release expectancy somewhat higher than do readmissions in the younger age groups, but the difference is not large if we allow for the fact that presumably the more difficult cases are the ones who return. Table 6, for example, shows that 76% of first admissions aged 25 to 34 were out at the end of 12 months, while the corresponding figure for readmissions was 67%. In older cases the relationship is reversed and readmissions have a greater release expectancy than first admissions, but this is probably due to complicating death rates which play an important role here.

**RECIRCULATION OF CASES NOT EXCESSIVE—
ECONOMIC FACTORS—COMMUNITY MENTAL
HEALTH SERVICES**

One question may be answered quickly—Are we dealing merely with a more rapid *recirculation* of cases, beneficial though this may be? The answer appears to be “no.” Releases have increased by over 10,000 and admissions by 5,000; the difference accounts essentially for the population decrease (Table 1), and shows clearly that there has been a net gain in discharges and not merely recirculation. Among other facts established with regard to stability in the past few years is that the improvement of hospital figures is less vulnerable to economic factors than was originally feared. In the economic recessions of 1958 and 1960 we identified no influence on returns to hospital.

Finally, we may point out that outpatient services have not as yet had any visible influence on mental hospital psychiatry as it has been developing in New York State. The organization for community mental health services began functioning in 1955. By 1959 there were 46,000 admissions to the psychiatric divisions of general hospitals and 68,000 admissions to outpatient psychiatric clinics in New York State. These had developed during a period of increasing admissions to mental hospitals but we do not believe that the rise was related to the community program. The increases have occurred both in areas of the state where clinics and psychiatric beds in general hospitals exist and in other areas where such facilities are lacking or little developed.

Also, it should be noted that the rise of admissions is a world-wide experience and not limited to areas with community mental health services. So far, it seems that a saturation point has not been reached for either inpatient or outpatient admissions. However, the limit of need for hospital beds has been reached and is now falling. The main inpatient issues which remain to be settled are the patterns of organization and distribution of services. For outpatient services, all limits remain to be determined.

CONCLUSIONS

1. Fall of population in the New York State mental hospitals has continued through its sixth year. The rate of overall decrease has been about 1½% per year. Several elements in the total population can be identified as most affected by the change and with the exceptions of paresis and psychoses of the senium noted above, the decreases mostly involve those groups where drug therapy has the greatest clinical advantage over previous methods, this effect subsequently having been intensified by stepped-up total programs.

- (a) In general, the decrease is most marked in the younger age groups and in the 2- and 3-year cases and there is an actual increase of the very long term older cases (Figures 6 and 7). Releases have risen in cases of all durations of hospital life (Figure 4).

- (b) The 5-year fall (1955-60) of schizophrenic cases is the most impressive of all diagnostic groups and amounted to 3,376. This began abruptly after the introduction of large-scale drug therapy in January 1955 and has continued ever since. In this same period (1955-60) there was a marked increase of 2,064 in schizophrenic admissions. Within the schizophrenic group, the decrease was most marked in the 1- to 4-year cases (Figure 10) and the age group 24-44.

- (c) In sharp contrast, the number of resident cases of alcoholic psychosis has actually risen (Figure 8).

- (d) There has been a diminution of cases of other functional psychoses although of less significance than that seen in schizophrenia (Figure 8).

2. The relationship of the foregoing changes to the introduction of large-scale

drug therapy remains no less open to debate than it was in May 1957 when we outlined our reasons for seeing a positive relation. We still find no other explanation for a change of such magnitude which has involved hospitals across the country and abroad and which, in its larger aspects, began quite abruptly in 1956, the year when psychiatric drug therapy first began to be applied on a large scale. There is no doubt that population reduction may be and has been brought about by many other means. However, the fact is that it was never before accomplished on a scale remotely approaching the national and international level reported since 1956.

3. However, the question as to the significance of drug therapy in this entire situation has taken on another meaning and implication. For the first few years the issue which seemed to hang in the balance was whether drug therapy should really be accepted and come into general use. It now seems that further debate on this point has lost its significance because regardless of the formal opinions which may be expressed, the fact is that hospitals throughout the world are using this method. It appears from various communications that practice varies much less than theory and that the established norm probably runs at about 60% of the population of the various mental hospitals; at least this is the impression which one gets from informal communications.

The question of drug use thus seems to be settled in a practical sense but the original problem retains its importance because insofar as the mental hospital improvements are due to drug therapy, they may be limited by the limitations of drug therapy, both as to the proportion of cases relieved and the pattern of individual improvement and its conditions. If, for example, release is due in a significant degree to such therapy, drugs may have to be maintained indefinitely afterward. In practice this is gradually being accepted and here, as often occurs, practice seems to precede theory since many psychiatrists are still dubious about this entire subject.

4. If drugs play a large role, we shall have to accept another limitation. Up to the present time they have proved much more

effective in reducing active positive symptoms than in controlling negative ones, such as occupational inertia, vocational incapacity, and lack of initiative for constructive occupation—long a prime problem in the care and treatment of the mentally ill. Much effort will have to be expended in social and vocational rehabilitation, but perhaps we have not given due recognition to the fact that defects in this area are not an accidental and secondary problem but a primary and central one directly related to mental illness and especially schizophrenia, and it may be expected to become more prominent because of the differential effect of drugs on mental symptoms.

5. Perhaps most important of all is the recognition of the fact that striking and valuable as the recent improvements in hospital results have been, it is also possible to exaggerate them. The recent decreases of hospital population have continued at the rate of 1%-1½% per year in our state, and careful review of the data indicates that this rate may be expected to continue. There are some indications that a degree of acceleration will take place in the next few years to be followed by a possible plateau formation in the course of time, but chronic cases are still accumulating in our hospitals in numbers only 22% below those which had filled some 53,000 beds with long term cases in New York by 1955. In 5 years the rate has fallen from 27 per year per 100,000 of the state population to 20 per year and the mean age of such cases has risen from 50 to 56 years (Table 3). All this has implications for future decrease of the number of long term mental hospital beds which will be needed. However, the number of beds required for short term cases (less than one year) has apparently reached a plateau at about 12,000, and there is also some indication that the number of beds for intermediate care (1-4 years) will reach a plateau at about 16,000 beds, and the fall of chronicity rate is to some extent being counterbalanced by increase of state population.

6. Table 9 gives our projection of the resident patient population of the New York State mental hospitals in 1970. We believe, as a matter of judgment on the basis of the evidence given above, that in the 10 years

from 1960 to 1970 there will be a continued reduction which will leave a mental hospital population of between 72,000 and 83,000

resident patients. This would be a reduction amounting to between 6% and 19%. We believe this to be a reasonable degree of

TABLE 8
First and Readmissions for Selected Mental Disorders

MENTAL DISORDER	FISCAL YEAR ENDING MARCH 31					
	1960	1959	1958	1957	1956	1955
Total — First	18,021	17,721	16,972	16,014	15,849	15,643
Readmission	8,752	7,531	6,314	5,814	5,605	5,816
Schizophrenia — First	4,920	4,924	4,449	4,192	4,131	4,341
Readmission	4,363	3,713	3,076	2,777	2,656	2,878
Psychoses of senium — First	5,937	5,981	6,340	6,149	6,345	6,223
Readmission	625	532	482	485	456	487
Alcoholic psychoses — First	1,365	1,340	1,292	1,084	1,018	997
Readmission	716	592	436	431	425	427
Involuntal psychoses — First	1,213	1,230	1,057	1,133	1,118	1,121
Readmission	704	638	541	501	513	482
Manic-depressive psychoses — First	266	265	291	259	300	272
Readmission	609	602	631	626	609	482
Psychoneuroses — First	1,318	1,304	1,101	919	839	685
Readmission	655	551	397	357	345	266

TABLE 9
Projection of Resident Patient Population

CATEGORY	RESIDENT PATIENT POPULATION	RESIDENT PATIENT POPULATION PROJECTION FOR 3/31/70	
	3/31/60	MINIMUM	MAXIMUM
Total	88,768	72,000	83,000
Time Since Admission			
Less than 1 year	12,943	13,000	15,000
1 to 5 years	18,843	14,000	18,000
5 or more years	56,982	45,000	50,000
Mental Disorder			
Schizophrenia	50,194	40,000	43,000
Psychoses of senium	13,730	11,000	14,000
Alcoholic psychoses	4,103	4,000	5,000
General paresis	2,388	0	1,000
All other	18,353	17,000	20,000
Age Group			
Less than 25 years	4,714	5,000	6,000
25 to 44 years	18,903	12,000	14,000
45 to 64 years	36,208	25,000	28,000
65 years and over	28,943	30,000	35,000

precision for program planning.

7. Finally, statistical evidence is lacking for a massive acceleration of the process of shrinkage. Much of the limitation appears to be inherent in the drug therapy with which the process was begun. Any advance beyond the present rate seems to require either a newer and better technology or a newer administrative and organizational approach and it is to be hoped that no type

of innovation will be applied on a large scale without provision for critical and adequate evaluation.

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AN APPROACH TO THE EFFECT OF ATARAXIC DRUGS ON HOSPITAL RELEASE RATES¹

LEON J. EPSTEIN, M.D., RICHARD D. MORGAN, A.B., AND
LYNN REYNOLDS, M.A.²

The Department of Mental Hygiene has for the past three years been assembling its routinely collected data for the purpose of cohort follow-up analysis as outlined by Kramer(1), Israel and Johnson(2), and Pollack(3).

Mental hospital population studies have, until recently, been limited to census-type approaches or cross-sectional views. With such approaches one could ascertain for any given period the number of admissions, discharges or deaths, or the patient population at any given time. The advantage of cohort follow-up analysis is that it permits one to obtain such measures as the likelihood of release as well as estimates of length of hospitalization prior to release for certain cohorts of patients. The term *cohort* is applied to any group of patients with one or more characteristics in common, such as age, sex, race, etc. An example of the information which one may obtain from such cohort follow-up analyses may be seen in Figure 1.

This chart describes the status as to hospitalization of all white male schizophrenic patients 25-44 years of age who were admitted to California state hospitals for the mentally ill in 1949. At any point after admission one is able to determine the percentage in each category, and trends are readily recognized. It is apparent that this technique has wide usage in studying trends with respect to certain characteristics of patients under treatment as well as certain aspects of the character and outcome of their treatment. It thus provides an additional important tool not only for operational research but supplies base lines for continuing reviews of the nature and effect of treatment programs.

One of the initial problems approached

with the aid of certain of these cohort data was the impact of tranquilizing drugs on the recent steady decline in state mental hospital populations. This decline is a phenomenon which has been occurring in California as well as in many other states (4). This report is the first of a planned series wherein the use of drugs with various patient cohorts will be studied. The data for these studies consist of information concerning drug usage in the State of California Dept. of Mental Hygiene. For a period of 30 months, extending from July 1, 1955 to December 31, 1957 information was recorded for every patient in the 10 mental hospitals to whom such drugs were administered: age, sex, diagnosis, legal classification (method of admission), name of drug, number of days on drug, total amount of drug, date initiated—date ended, and reason for discontinuing.

During this period some 20,000 courses of drug therapy were carried out on some 10,000 patients. This hospital population sample is now in the process of being studied and interhospital comparisons of drug usage are also being made. The only limitations on drug treatment in all hospitals were budgetary, i.e., in terms of funds available for psychotropic drugs. The drug allotment per patient, however, was the same for each hospital. For the first year of data collection, this limitation is important since, at the beginning, the California Dept. of Mental Hygiene's expenditures for these drugs tended to be comparatively low.

It is not possible at the present time to describe the drug-treated group as a whole, since the 20,000 IBM cards relating to this group are still interfiled with the total deck of some 300,000 cohort cards pending the completion of certain cohort studies. It is possible, however, at this stage to present certain data relative to white male first admissions between the ages of 25-44 with the diagnosis of schizophrenic reaction. We are endeavoring to see, by looking at sig-

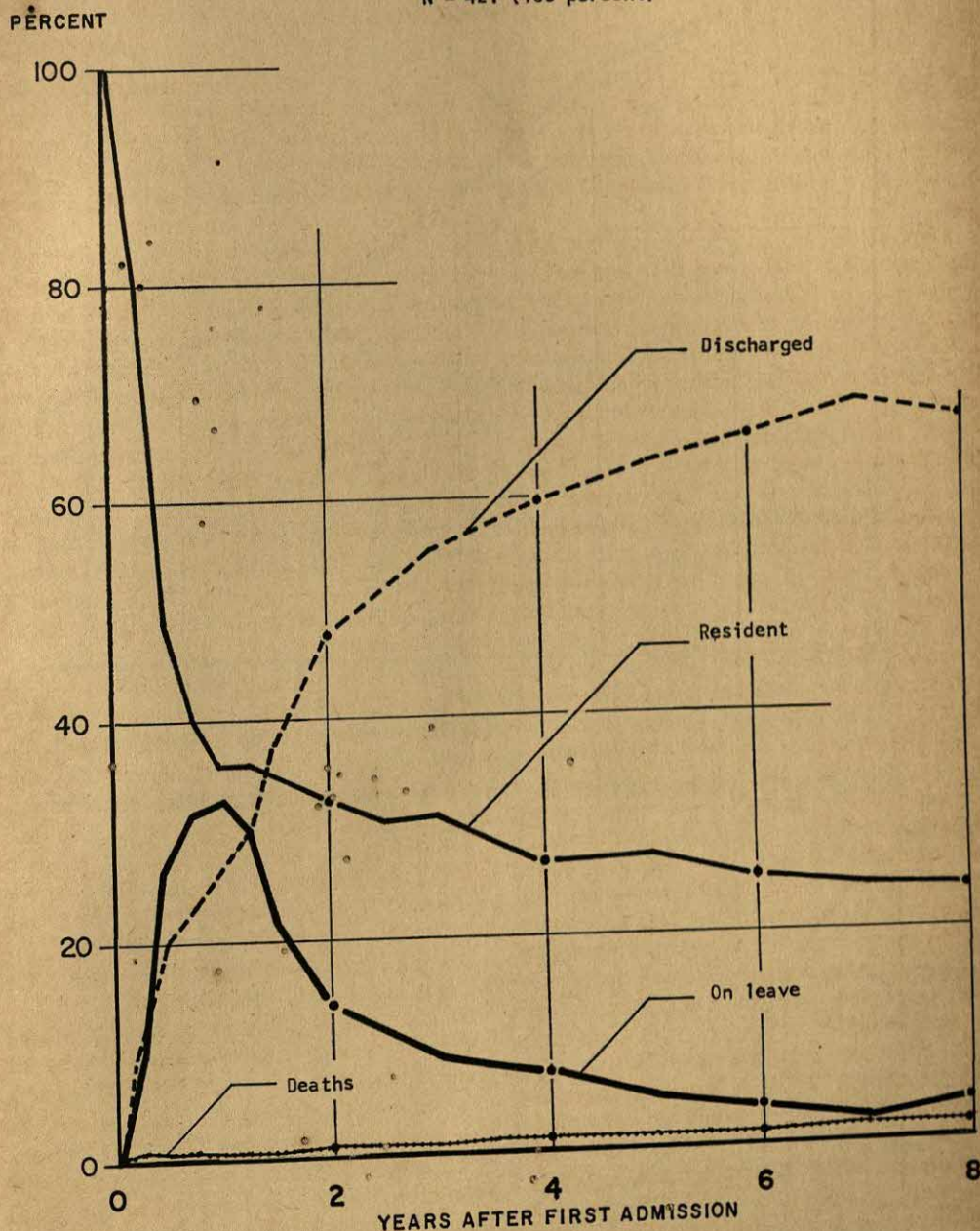
¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Calif. State Dept. of Mental Hygiene, San Francisco, Calif.

FIGURE 1

Status on Records at Successive Points of Time after First Admission, for Male White Schizophrenics, Aged 25-44 Years, Committed as Mentally Ill in 1949 to California State Hospitals for General Psychiatry

N = 421 (100 percent)



nificant population sub-groups such as this one, what conclusions we may be able to draw about the relationship between length of hospitalization and drug treatment. We also plan to examine more closely those

patients whose hospital stay appears to have been altered because of drug treatment in situations where these drugs are used in routine fashion in our settings. In addition, we are endeavoring to elaborate further this

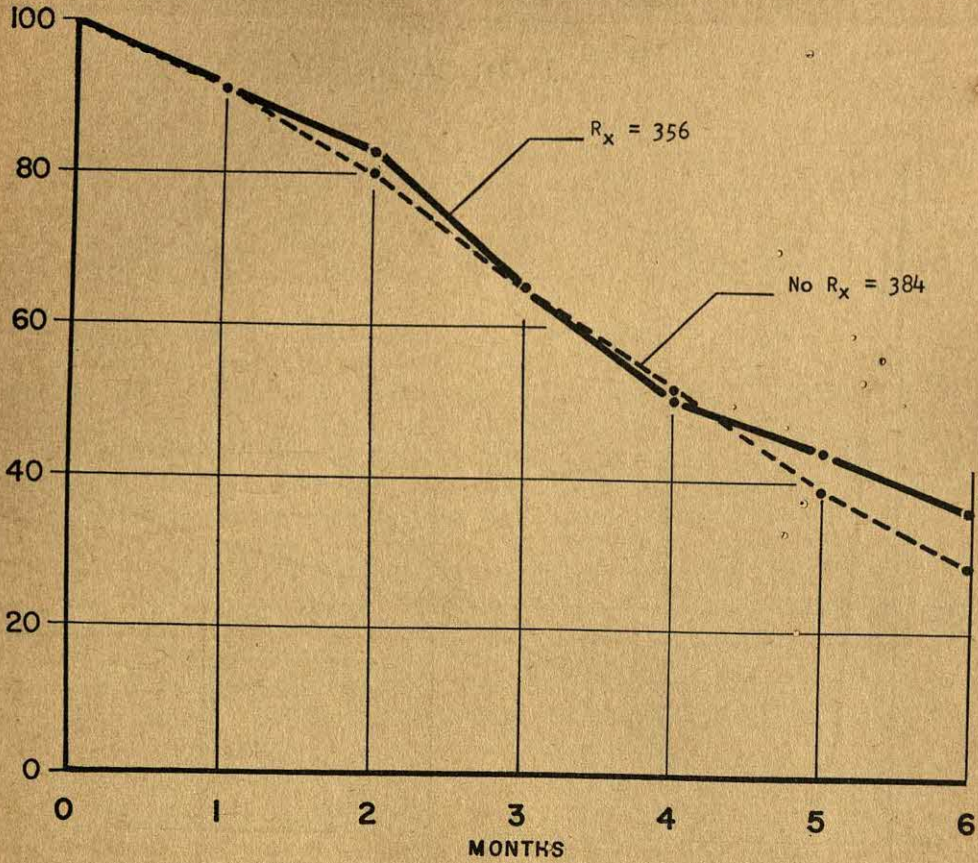
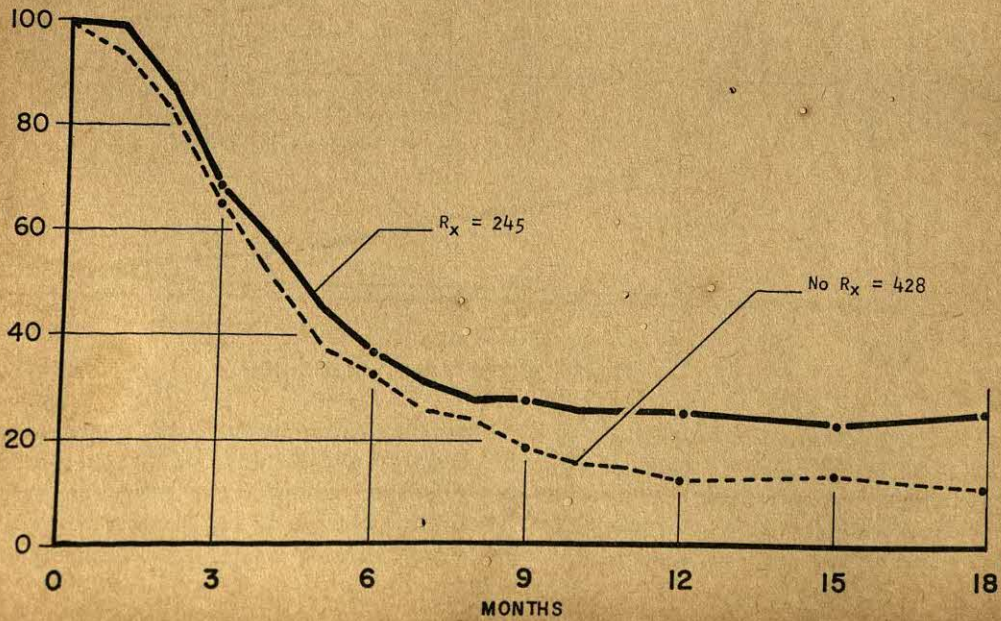
FIGURE 2**All Hospitals—The Retention Rates of Drug Treated and Non-Drug Treated Patients—1957****N = 740 (100 percent)****PERCENT****FIGURE 3****All Hospitals—The Retention Rates of Drug Treated and Non-Drug Treated Patients—1956****N = 673 (100 percent)****PERCENT**

FIGURE 4

The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of High Drug Usage—1956

N = 215 (100 percent)

PERCENT

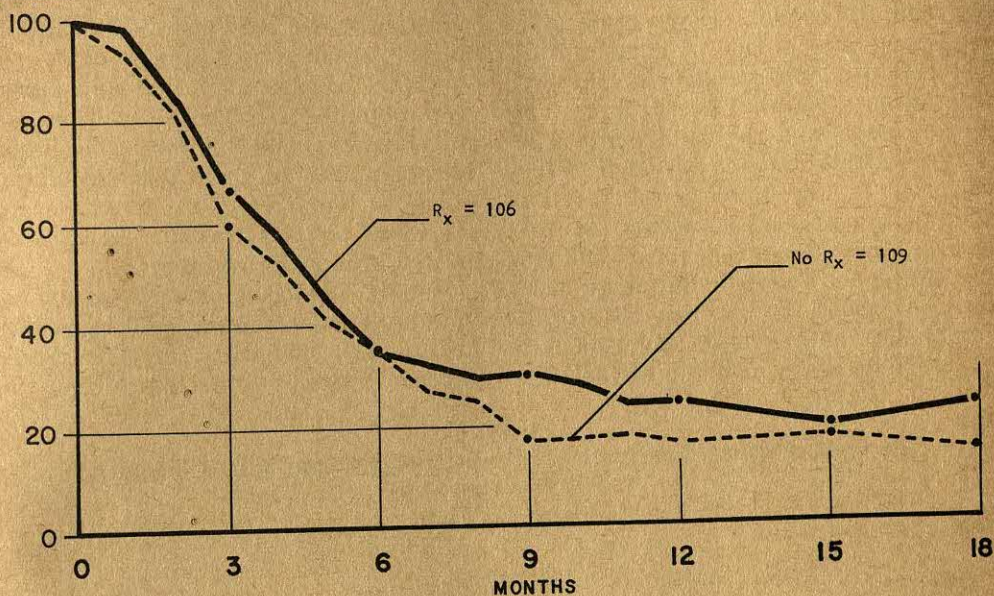
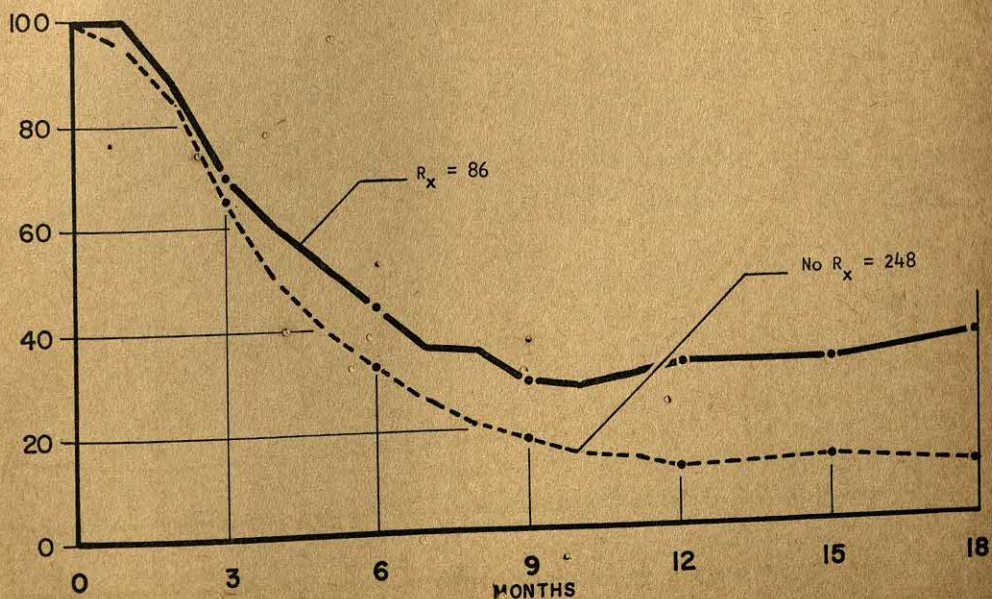


FIGURE 5

The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of Low Drug Usage—1956

N = 334 (100 percent)

PERCENT



method for the study of problems associated with patient movements to and from institutional settings.

One is painfully aware, to be sure, of the make-up of drug data such as those being studied here. They involve a variety of physicians, of hospital settings, of drugs, of drug timing, drug dosage, of length of treatment and of discharge criteria. In short, there are no experimental controls with respect to usage, and the data represent information about tranquilizing drugs as they were used in this given period in all of California's state mental hospitals. As such, however, they are excellent for studying drug effects and release rates under operational conditions. To be sure, release from a hospital, in and of itself, leaves much to be desired as a sole criterion of the effec-

tiveness of any form of treatment. The question at hand, however, is that of the relationship between ataraxic drug usage and release rates.

Two groups of first admission male schizophrenic patients are being studied: those admitted in the 1956 and 1957 fiscal years to the 9 major state hospitals for the mentally ill. For fiscal 1957, 740 such patients were admitted and for the previous year, 673. Figures 2 and 3 illustrate the hospital retention rates of these patients at given points in time. Separate curves are given for those patients treated and those not treated in each of these years.

Certain factors become apparent on inspecting these figures. Of 740 cases in the 1957 group, 356 cases, or 48%, received ataraxic drugs at some time during their

FIGURE 6
The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of High Drug Usage—1957

N = 269 (100 percent)

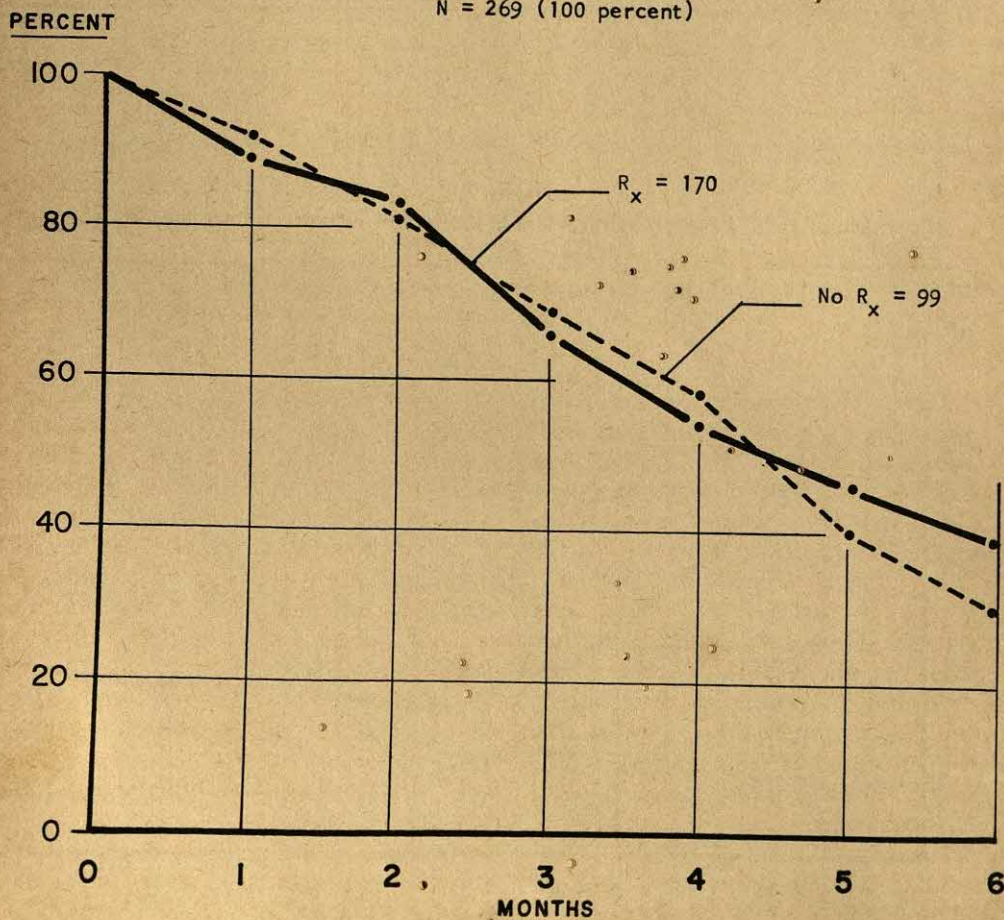
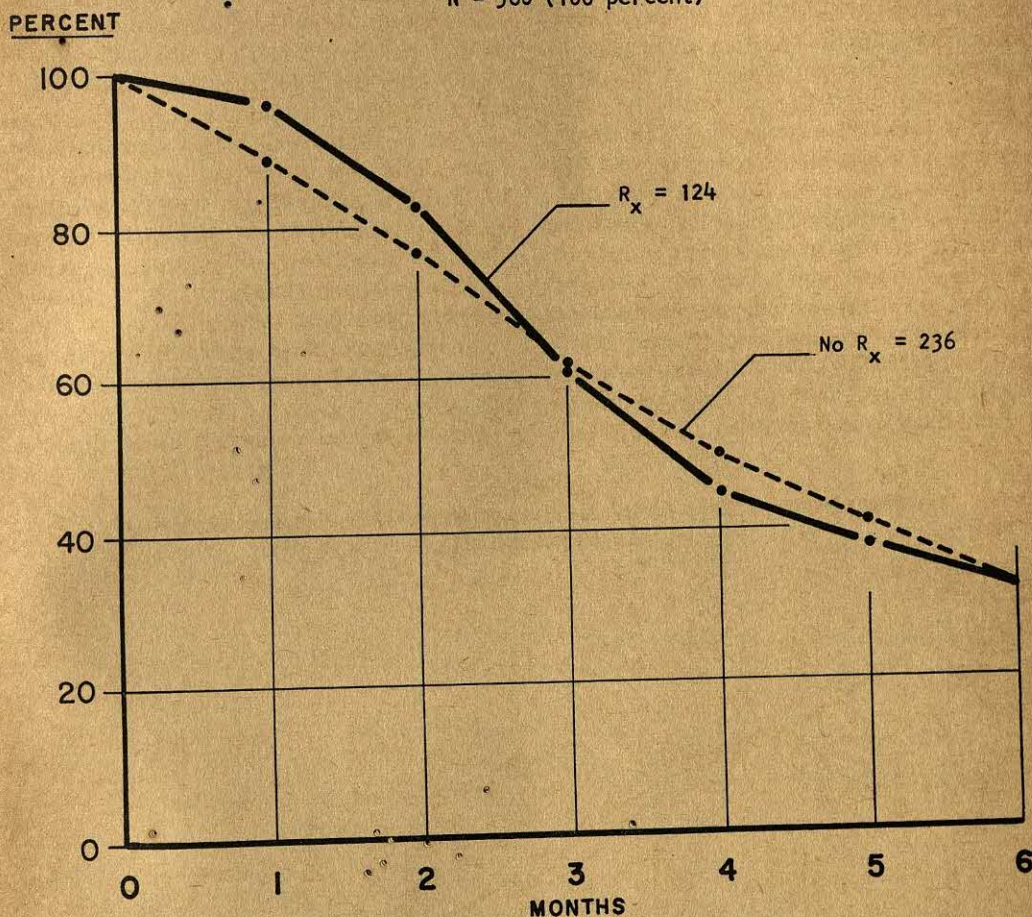


FIGURE 7
The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of
Low Drug Usage—1957

N = 360 (100 percent)



first 6 months of hospitalization. As we know, the release rate of this group tends to be comparatively high during the first months of hospitalization. Seventy-one percent of the non-drug treated and 64% of the drug treated groups had been released within 6 months of admission. The same trend is evident for the 1956 population under study. Thirty-six percent of this group received medication at some time during the first 18 months of their hospitalization; 67% of the non-drug treated patients were released at 6 months; and 88% at 18 months. For the drug treated patients, 63% had been released at 6 months and 74% at 18 months.

These data are amenable to a host of interpretations. It is apparent that if one

looks only at these data one is able with self-righteous courage to form a conclusion as to their meaning which is quite in keeping with one's presently existing philosophy about the effectiveness of drugs. Thus, one might say, these data indicate that in California patients were kept on maintenance rather than treatment dosage. Another might say, they clearly indicated that staff physicians were carefully selecting only the sicker "patients who otherwise might have stayed even longer. Another might go so far as to say the reason for such curves is that the treated patients remained hospitalized largely because of side effects and might have been able to leave the hospital, were the treatment terminated. We are sure that there are not only other interpretations

but that most readers believe they could predict the specific interpretation which would be offered by many of their colleagues.

The attempt was made, however, to carry this one step further at this early stage of deliberation. Comparisons were made between those 3 of the 10 California state hospitals for the mentally ill which treated the largest proportion of their patients with ataraxic drugs and the 3 which treated the smallest proportion. One small hospital was not considered because its population consisted largely of non-psychotic sexual offenders and thus would provide scarcely any data for study. The Department's teaching and research center was also excluded because of its small caseload of schizophrenic inpatient admissions.

Figures 4 and 5 present for 1956 the retention rates of first admission male schizophrenic patients in the 3 high and 3 low drug usage hospitals. In the high drug usage hospitals, 49% of the patients were drug treated during their first 18 months of hospitalization as opposed to 26% in the low drug usage hospitals.

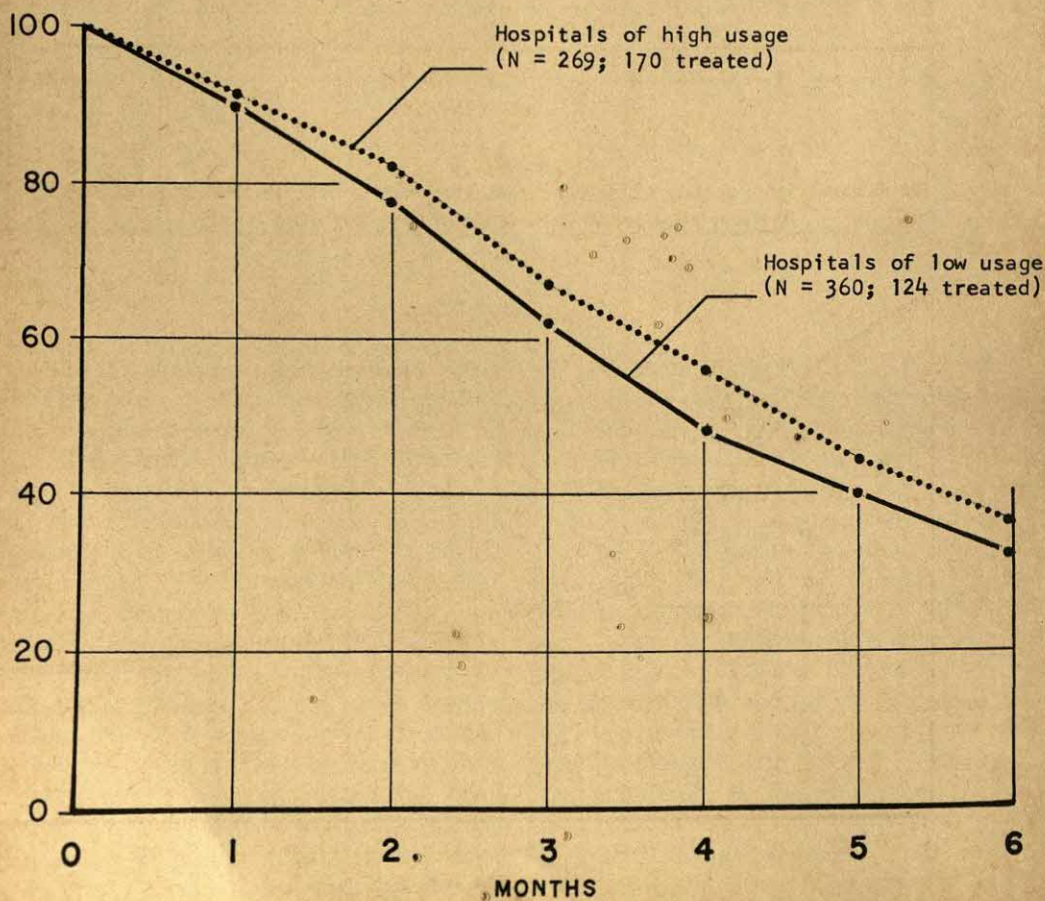
In each of these 2 hospital groups, one again notes that drug treated patients tend to have longer periods of hospitalization. The curves for the non-drug treated patients are consistently alike for the 2 groups. The drug treated group in the low usage hospitals, however, seems to have somewhat longer periods of hospitalization than do drug treated patients in high usage hospitals.

Figures 6 and 7 present these data for

FIGURE 8

The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of High Drug Usage and Three Hospitals of Low Drug Usage—1957

PERCENT



the fiscal year 1957. A threefold increase in the amount budgeted for the purchase of psychotropic drugs resulted in an increase in the percentage of treated patients: 3 hospitals of high drug usage treated 63% of their cohort of admissions in 1957, and 3 hospitals of low drug usage treated 34%. It is noteworthy that the retention curves

FIGURE 9
The Retention Rates of Drug Treated and Non-Drug Treated Patients in Three Hospitals of High Drug Usage and Three Hospitals of Low Drug Usage—1956

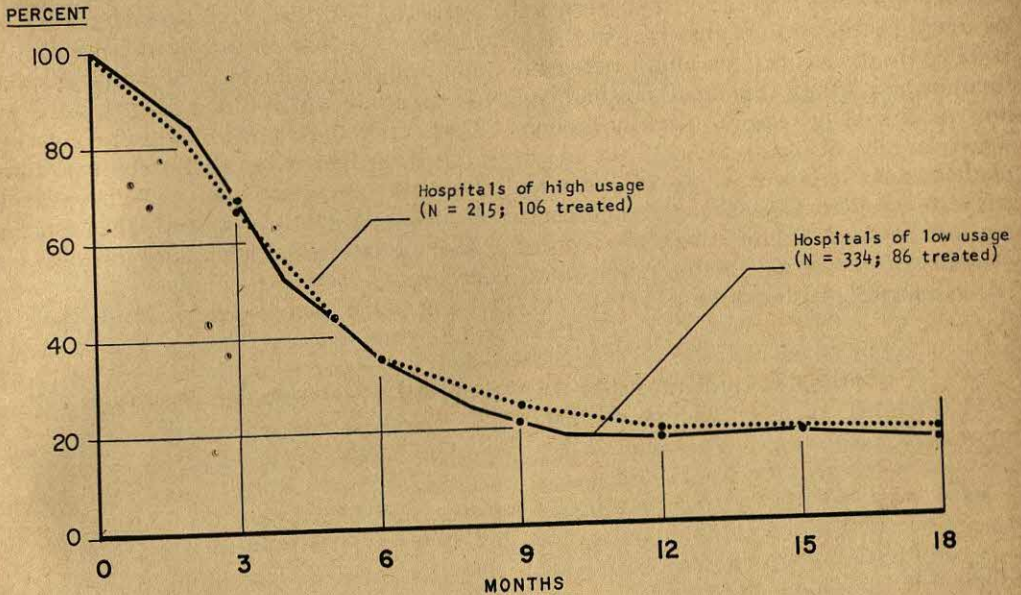
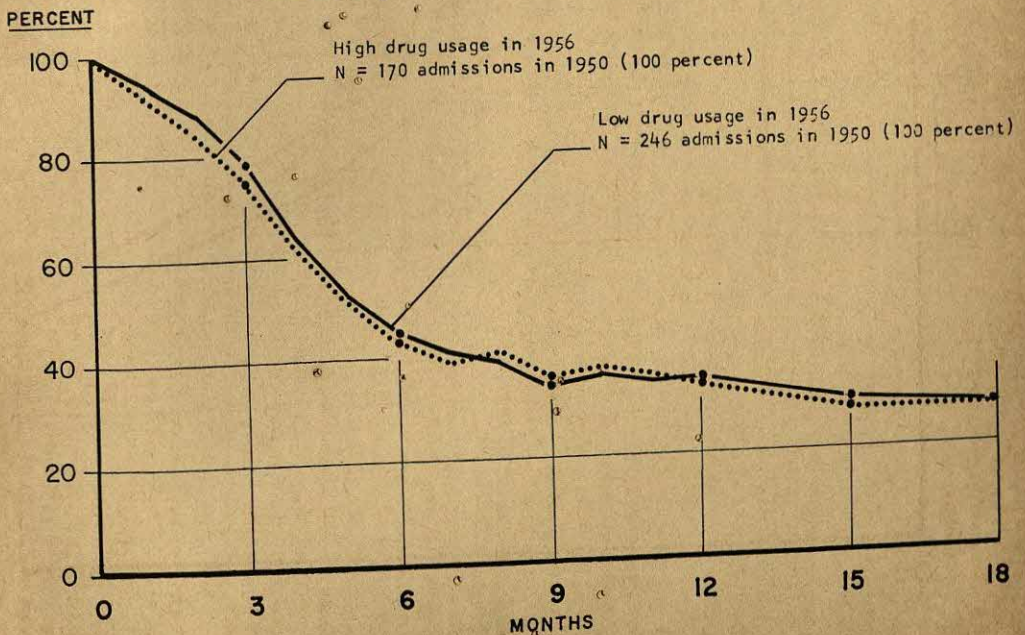


FIGURE 10
The Retention Rates of Male Schizophrenic First Admissions in 1950, to Three Hospitals with High Drug Usage and Three Hospitals with Low Drug Usage in 1956



for treated and untreated patients show much more overlap, both for high-usage and low-usage hospitals.

It appeared of interest to compare the high-usage and low-usage hospitals with respect to over-all retention rates for admissions in 1956 and in 1957, by combining the groups of treated and untreated patients for each admission year. The comparison is presented in Figures 8 and 9. For 1956, scarcely any difference was found between the 2 hospital groups, but for 1957 the hospitals of high-usage show a slightly higher retention rate.

If one examines retention rates for these hospitals for 1950 with this same patient category (Figure 10), one finds that these curves scarcely differ, thereby indicating little difference in the retention rates in high and low drug usage hospitals prior to the introduction of ataraxic drug therapy.

However, for treated and untreated patients combined, there is a notable difference for all California state hospitals between the retention rate for 1950 and the rates for 1956 and 1957, as may readily be noted in Figure 11. In addition, the data for the years 1951 through 1955 are available and are consistent with this trend.

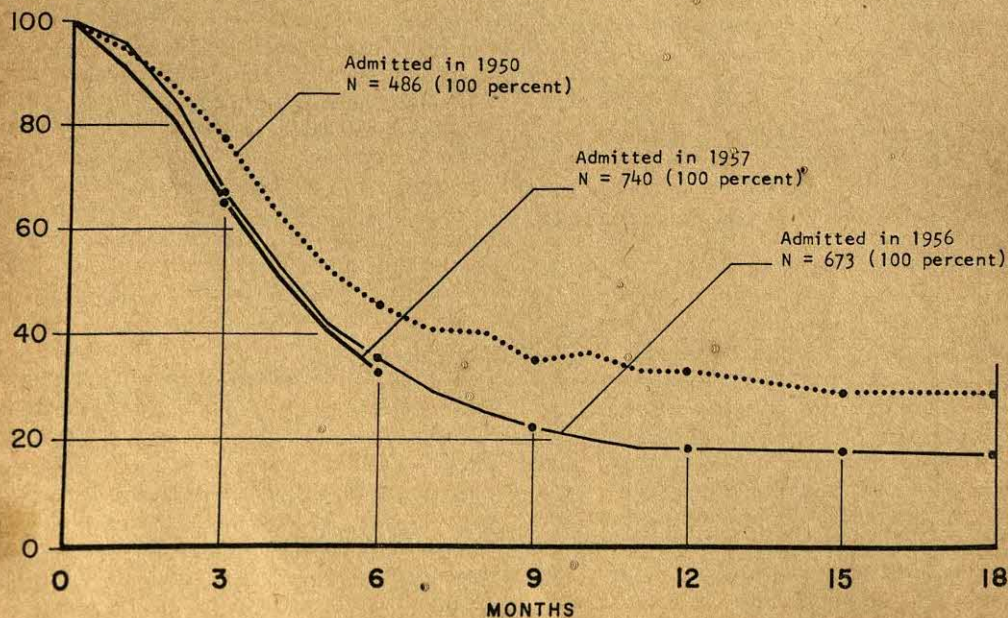
One may reach certain conclusions from these data insofar as the State of California is concerned. With respect to males diagnosed as suffering from schizophrenic reactions on their first admission, and insofar as ataraxic drugs were used in these hospitals during the 1956 and 1957 fiscal years, their usage does not appear to have been associated with the more rapid release rate which has been observed in recent years. It may well be, to be sure, that tangential factors associated with their use have resulted in an altered hospital environment with more frequent and earlier releases. Many other improvements and policy changes, however, have also occurred during these years, a factor which precludes unequivocal conclusions. The fact is, however, that with respect to the patient groups studied, where a difference is found between the retention rates of ataraxic drug treated patients and those not so treated, the untreated patients consistently show a somewhat lower retention rate. Furthermore, the hospitals wherein higher percentages of first admission schizophrenic patients are treated with these drugs tend to have somewhat higher retention rates for this group as a whole.

These would seem to be provocative data.

FIGURE 11

Retention Rates for Male Schizophrenic Patients, All Hospitals: First Admissions in 1950, 1956, and 1957

PERCENT



We intend to explore other groups in similar fashion. We have evidence in a controlled study which leads us to believe that ataraxic medication is effective with chronically ill schizophrenic patients. We intend to follow other patient groups in similar fashion for at least 5 years and plan to present results not only for these years but, hopefully, for medication in other years as well. In this fashion we hope to be able better to interpret the relationship between release rates and ataraxic drug usage.

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DISCUSSION OF TWO PREVIOUS PAPERS

THOMAS D. GRIFFITH, M.D. (Brooklyn, N. Y.).—Statistical reports such as the 2 papers presented here do not always excite the same degree of interest and attention as reports of a more clinical nature, but it might be worthwhile to re-emphasize an old fact that the vast preponderance of psychiatric care and treatment has been, is being, and will be given in hospitals such as these reports are drawn from. It follows that the records of these institutions are repositories of a vast amount of meaningful information for evaluation of past and present treatment methods as well as for future planning. Drs. Brill and Epstein, along with their indispensable statisticians, have presented a good sample of the potential riches to be drawn from this source.

Dr. Epstein's paper presents some rather provocative data concerning a group of patients treated with ataractic drugs. As his tables show, the treated patients had lower release rates than the non-treated; also, release rates over the reported period were not significantly greater in the high drug usage than in the low drug usage hospitals. If we knew that the control groups were comparable to the treated groups as to degree of sickness, and if we knew that the drug dosage was adequate in amount and length of administration, we would have rather discouraging conclusions

to draw. However, Dr. Epstein's report, as he states, is a preliminary one and is to be followed by others in which more variables will be controlled. I hope these results which appear to be paradoxical will stimulate some lively discussion from the floor. My personal experience and impressions convince me that the psychopharmaceutical agents are a potent factor in earlier and increased rates of release. I certainly look forward to further reports from Dr. Epstein and his colleagues from California.

Dr. Brill has long had his finger on the statistical pulse of the New York State mental hospitals. Now, he has given us his third report since the beginning of the widespread use of psychotropic drugs 6 years ago. Dr. Brill is an astute and painstaking investigator and I find little to question in his observations and cautious conclusions. It is now clear that it is impossible to evaluate the effect of the psychotropic drugs as an isolated factor when so many other important changes in the hospitals and community have occurred concomitantly. As many observers have noted, the effects of these drugs have acted almost as a catalyst; the reaction appears still to be gaining momentum and spreading out until hardly any area of mental health is unaffected.

I was asked to discuss these papers from the point of view of an aftercare clinic psychiatrist. Our aftercare clinics, a facility of the New York State Department of Mental Hygiene, supply aftercare to any patients placed on convalescent care who reside in the 5 boroughs of New York City. These clinics stress intensive follow-up care by a psychiatrist and psychiatric social worker of both the patient and his family. Medication is continued without interruption in the transfer from the hospital to the clinic and is adjusted as necessary for maintenance. Close liaison is maintained with other community facilities such as the Department of Welfare, social agencies, vocational rehabilitation agencies, and other community clinics. Two of the four aftercare clinics have associated day hospitals. Through an intensive program including individual and group psychotherapy, pre-vocational training, occupational therapy and ECTs, where indicated, many chronically regressed and relapsing patients are kept from rehospitalization.

No report can be all-encompassing; encyclopedic as Dr. Brill's paper is, I believe he has not given the aftercare clinic its due, especially as to its effect on the hospital return rates and hence the hospital population figures generally.

Many of us in the field are convinced that eventually the mentally ill patient will, for the

most part, be treated in the community on an outpatient basis and the current trends in state hospitals will continue in the direction of this goal. Our clinics must in time expand to become before- as well as aftercare services. Practice, theory, and simple economics favor this trend. Even now, the aftercare clinics can show substantial proof of their efficacy. I would like to offer a few more statistics to emphasize just what our clinics are accomplishing.

The following data are taken from the annual report of the New York City aftercare clinics for 1959-1960 prepared by our director, Dr. Donald Carmichael. The figures are approximate. During the reported year 17,000 patients were placed in convalescent care from all the state institutions; of these approximately 9,000 attended the New York City aftercare clinics, the remaining 8,000 being followed by the aftercare clinics of their individual institutions. The rehospitalization rate in the New York City aftercare clinics was 34% and the rate for the other 8,000 was 50.8%.

Dr. Carmichael showed (and this emphasizes that intensive aftercare is a bargain) that the money thus saved in decreasing the return rate was about twice the total yearly budget of the New York City aftercare clinics.

At the Brooklyn Aftercare Clinic a few years ago, a one-year research study was done in which two of the clinic psychiatrists and their social work teams treated smaller case loads, and in which cases were picked up more quickly after hospital release and followed more intensively. We were able to reduce the rehospitalization rate to 17%.

There are some other factors which may further decrease rehospitalization but which I cannot, at this time, substantiate with figures. For example, the New York City aftercare clinics actively encourage selected patients at the time of discharge to seek private and low-cost clinic psychotherapy; we employ family physicians freely for medical supervision where continued medication is indicated, and our day hospital program is active, growing, and effective.

DONALD G. MCKERRACHER, M.D. (Saskatoon, Canada).—The papers of Dr. Brill and Dr. Epstein raise many questions. What do the fluctuations in mental hospital admission, discharge and resident rates actually mean? How have the new treatments, especially the ataractic drugs, affected these statistics? Does this picture not raise questions about the effectiveness of all state hospitals? With or without

the tranquilizers, should we continue to admit and keep within these huge institutions those who are confused, depressed, bewildered and anxious?

I shall first give my own interpretation of what Drs. Brill and Epstein are saying, and then agree or disagree according to my own experience. Dr. Brill has discussed mental hospital statistics of the past 10 years as collected in the State of New York. As in his 2 previous papers, he points out that after many years of annual increase, the total patient population suddenly began to drop. This sharp decline, which began in 1956, he links to the large scale use of ataractic drugs which had started 2 years previously. He also points out specific changes in the character of the mental hospital population toward fewer chronic schizophrenics, fewer younger patients, and more admissions with an even greater increase in discharges. Giving credit to the new drugs for triggering the changes, he challenges disbelievers to present proof to the contrary. Finally he attempts a projection of future New York mental hospital population, based on his study of the statistics of the past 10 years.

When I first compared the date of patient population decline in New York State with similar changes in Britain and Canada I thought I had discovered a discrepancy. The drop occurred in 1956 in New York, 1954 in Britain, and 1958 in Canada, even though all these areas began using the ataractic drugs during the same year—1954. However, this could be explained by the difference in the increase of population growth in the 3 areas. Therefore, it becomes clear that the decline in mental hospital patient rates per 100,000 commenced immediately after the new drugs were first used in Britain, Canada and New York State. So the evidence is overwhelming in support of Dr. Brill's claim that the fall in the mental hospital population is related to the wider use of the ataractic drugs.

However, I have to disagree with Dr. Brill's cautious suggestion that the effects are pharmacological. Until otherwise proven, I prefer to believe that the population fall can be attributed more to the effect of the publicity about these drugs or the attitude of staff and communities.

This view draws some support from Dr. Epstein's paper, especially where he shows that the retention rates of the hospitals which used the drugs but little were approximately the same as in the high usage hospitals. It seems to me that both groups of California hospitals described by Dr. Epstein might have been in-

fluenced by the clamour and the advertising which accompanied the drugs.

I would like to mention some of the disadvantages in using hospital population changes to establish drug effectiveness. Despite an amazing similarity in hospitalization changes in all areas and, even though the drop always came with the increased use of drugs, it must be made clear that other factors are involved in mental hospital population change. To illustrate, I want to compare the rates in Saskatchewan with those of Ontario during a 25-year period. From 1932 to 1958, the resident rate per 100,000 doubled in Saskatchewan mental hospitals (277 to 512), whereas the rate in Ontario, for this same period, remained almost constant (increasing only from 334 to 380). Here political, social and economic factors made much more difference than did drugs.

Further evidence of the future changes that may take place in mental hospital statistics comes from such projects as the Worthing Experiment, where the chronic patient load was kept at a minimum by home care and day patient treatment.

As another illustration of deliberately changing hospital statistics by planned policy I would like to describe a project in Saskatoon, a city of 100,000 people which sends its psy-

chotic patients to a 1200-bed mental hospital at North Battleford 100 miles distant. For several years, that hospital has contained about 275 Saskatoon residents and each year has admitted 125-150 acute psychotics from that city. For the past 6 months most of the patients, certified as mentally ill in Saskatoon, instead of going as formerly to North Battleford have been re-routed to a psychiatric ward in a general hospital right in the city of Saskatoon. Here they received intensive therapy and, with few exceptions, returned to their homes within 30 days; they are now being followed through a modified program of home care. It is too soon to report whether this policy is good or bad but that is not the point; enough to say that, at present, this program is radically changing the statistics of the hospitalization of psychotics from Saskatoon. This emphasizes the fact that there are many ways of looking after psychotics other than in chronic mental hospitals.

In conclusion: Whether one approves of the mental hospitals and whether we ultimately continue to have such institutions, the point is, we now have them and should learn from them. Studies such as those carried out by Drs. Brill and Epstein do much to increase our understanding of mental illness.

A SUMMARY DESCRIPTION OF FIFTY "NORMAL" WHITE MALES^{1, 2}

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BERNARD C. GLUECK, JR., M.D.,⁵ AND ZETTA FEDER, M.A.

Personality research in general, and psychiatric research in particular, has been seriously handicapped by the lack of uniformly accepted standards of normality. Until quite recently, the only generally accepted tests were the intelligence tests, where a range of normal intelligence, and ranges of subnormal and supranormal have been established for some years. None of the projective tests, Rorschach, T.A.T., *etc.*, has clearly established and generally accepted normal values or response patterns. Clinical psychiatric description tends to stress the presence or absence of abnormal patterns of behavior, symptoms, and disturbance of normal functioning, without an adequate description or agreement upon what constitutes "normal." Most of the studies reported in the literature deal with segments of personality functioning, as measured by one or more tests, by relatively brief interview; or with a highly selected sample. All of these factors limit the general applicability of the results, especially when one is attempting to set "normal" values.

In the past 15 years several very comprehensive studies have been reported, coming mainly from the highly selected groups represented by college students. In 1945 Heath(7) gave one of the first reports on the Grant Study, describing the general plan of this study of Harvard College sophomores. He states that 60% of the men examined had well integrated basic personalities, while the remaining 40% showed various symptoms such as shyness, mood fluctuations, autonomic instability, asocial

behavior, and incomplete integration of basic personality. It is interesting to note that only 6% of the group were felt to be motivated toward creative activity. Heath concludes that normal means a "perpendicular and balanced" personality.

In 1952 Earl Bond(2) reported on 64 of 66 student council members in 3 colleges in the Philadelphia area. In spite of the opinion of one of the college presidents, "It is as normal a group as you will get," only 39 of these students were judged to be well balanced, or to have such strong assets as to outweigh their liabilities. Sixteen of the group showed extraordinary ability and important neurotic traits, "success at the price of unhappiness." Nine of the group were described as gifted, but with serious personality problems: schizoid, depressive, *etc.* Bond concluded that 57% would benefit from psychiatric help, while 14% were in urgent need of help. In discussing the concept of normality Bond stresses a number of negatives, things that normal is not: *e.g.*, "Normal does not mean average—normal does not mean uninteresting—normal is not perfect—a normal person is not one who has no problems." He concludes with several positive statements about normality; it has a wide range and is in a state of flux; normal people are free to focus their energies on main purposes; and in their own culture normal people work and love with ease, happiness and efficiency, somewhat in proportion to their circumstances.

In a paper in 1956, reporting on projective test responses of the same group of students, Cox(3) defines normality as "the ability to maintain an harmonious and productive relationship with the environment and with the self." This is very close to the definition of normal inferred by Ackerman(1) as part of a discussion of goals in therapy. He sees the mentally healthy individual functioning harmoniously in 3 areas: in his internal economy of personality, in his interpersonal adaptation with his significant

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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⁵ Dir. of Research, Institute of Living, Hartford, Conn.

small group, usually the family, and in his relationships with larger social community.

Epstein(4), in describing some of the problems encountered in a family research study, discusses a number of concepts of normality or emotional health, including the one given by Ackerman, quoted above. On the basis of these various definitions Epstein and his colleagues divided their cases into 4 groups :

A. Absence of structured psychiatric symptoms, adequate social and occupational adaptation, no impairment of dynamic integration.

B. Absence of structured psychiatric symptoms, adequate social and occupational adaptation, mild impairment of dynamic integration with mild anxiety.

C. Absence of structured psychiatric symptoms, presence of social and/or occupational maladaptation, moderate impairment of dynamic integration with moderate anxiety and psychopathology.

D. Structured psychiatric symptoms, social and occupational maladaptation, severe impairment of dynamic integration with severe anxiety and psychopathology.

Groups A and B were considered to be emotionally healthy, although perhaps not normal.

From all of the foregoing material it appears to be obvious that a specific statement of what the normal or emotionally healthy person is like is still in its infancy. The definitions given all imply a large element of subjective evaluation and judgment on the part of the investigator or observer, and suffer inevitably from the various defects inherent in such an appraisal. In an attempt to avoid some of these problems of distortion by the observer, we have utilized the Minnesota Multiphasic Personality Inventory, which is a self-description type of evaluation, as the basic instrument for determining the subjects to be included in this study.

The problem of selection of subjects is never more important than in a study of this type. In all of the groups described above, and in several other reports on "normal" groups, including one on "normal control" volunteers, by Pollin and Perlin(9) in 1958, and a recent report on drug study volunteers by Esecover, Malitz and Wil-

kens(6), a high incidence of psychopathology is reported. All of these considerations helped to determine the design of the current project, and the method of case selection.

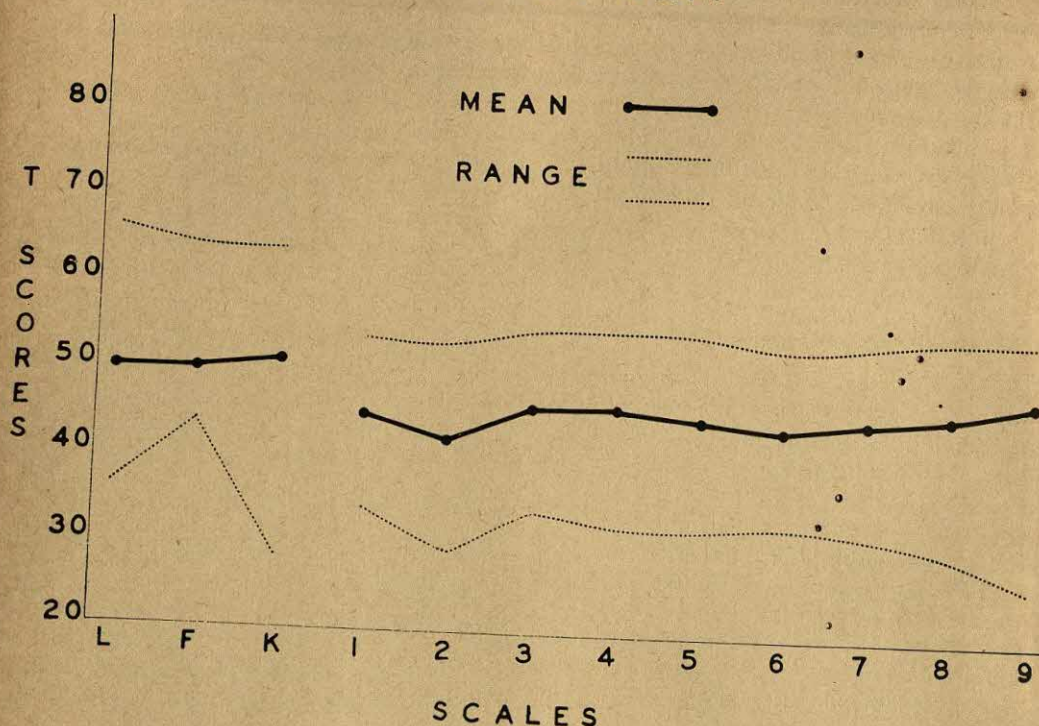
This study of "normal" young males was undertaken primarily to provide a reference group for a study of 100 psychiatric patients, part of a project studying "The Skilled Clinician's Assessment of Personality." We were able to draw upon a large group of young adult males who had first been studied 12 years previously, as part of a project on delinquency being conducted by Monachesi and Hathaway of the University of Minnesota. They had obtained a self-descriptive evaluation, by means of the MMPI, of all ninth grade students in the Minneapolis public schools. These individuals have been followed periodically in the succeeding 12 years, so that those developing known mental illness or delinquency patterns have been identified, and were readily eliminated from our sample. We took as our basic group those individuals who, on self-description at approximately age 14, had indicated an absence of psychopathology in any of the areas measured by the MMPI. This is indicated on the MMPI results by a profile with no score above 55.

Of 1,953 male students tested, 73 gave no indication of significant pathology. Of these 73 potential subjects, 23 were excluded from the study for the following reasons : 13 had moved out of the state, 7 were not locatable, 1 was deceased, 1 could not leave his job in a distant part of the state to come in for interview, and 1 subject refused to cooperate. Of the 50 remaining subjects, all but 5 agreed quite readily to assist in the project. These 5 were primarily concerned about the economic loss occasioned by leaving their jobs, and were persuaded quite readily when they were told they would be recompensed for the time spent in the interviews.

Each subject was seen for evaluation at the University. The following procedures were carried out :

1. A 1½-hour unstructured psychiatric interview in which current adjustment, description of home of origin, personal history

FIGURE 1
ORIGINAL MMPI



and aspirations, and mental status were appraised.

2. Examination on additional material to cover an extensive check list type of psychiatric history.

3. A structured mental status examination (check list).

4. A social adjustment rating (MSAS).

5. Psychometrics: (a) Repeat of the Minnesota Multiphasic Personality Inventory (MMPI); and (b) Projective drawings (House-Tree-Person) (HTP).

6. A home visit and unstructured interview with the wife, which included the wife's evaluation of her husband, and the interviewer's evaluation of the wife. (The MMPI, MSAS, and HTP were administered to the wife as well.) The wives of 38 of the 40 married men in the sample were interviewed.⁶

Findings: Our first impression, and one that has continued through subsequent evaluation of the data obtained, was of a remarkable consistency and uniformity in

the sample of 50 men. On most of the items in the extensive psychiatric history, these men were rated either identically, or within one step, on the variables involved. Some of the similarities were directly influenced by the choice of subjects; for example, 49 of the 50 subjects were born and raised in the Middle West, all were in the 25- to 26-year age range, 48 were currently living in a large metropolitan area.

Some diversity occurs when the current adaptational patterns are examined: 11 men were engaged in professional or semi-professional technical work, 2 were in executive positions, 12 were clerical, sales, or other white collar workers, 13 were craftsmen, skilled workers, or foremen, and 12 were operatives and semi-skilled workers. None was in the unskilled, laboring, service, or domestic categories. A narrower spread is observed in their income levels. Only one man was in the \$10,000 to \$14,000 a year class, 14 were in the \$6,000 to \$10,000 category, 34 were in the \$3,000 to \$6,000, and only 1 was earning under \$3,000 a year. All of the men had completed high school, 15

⁶ The complete data from this study will be on file with The American Documentation Institute.

had some college education, while 7 had postgraduate education.

The spread becomes somewhat wider when the observers' evaluations of these individuals enter into the picture. On the mental status examination these men were rated as having a spread of from 6 to 40 positive items, with a mean of 22.3 items. This contrasted with a spread of from 1 to 5 negative items, with a mean of .52 negative items per subject.

TABLE 1
Mental Status Examination Scores

NUMBER OF ITEMS	FREQUENCY OF POSITIVE ITEMS	FREQUENCY OF NEGATIVE ITEMS
41-60	0	0
36-40	4	0
31-35	1	0
26-30	13	0
21-25	11	0
16-20	10	0
11-15	9	0
6-10	2	0
1-5	0	13
0	0	37
Mean/Subject	22.3	.52

The social adjustment of the subjects was assessed quantitatively by using the Mandel Social Adjustment Scale(8), which gives a quantitative measure of the extent to which an individual meets the overt societal norms of his society. A score of 5 on each of the subcategories of this scale would mean a perfect adjustment. These men had a mean

score of 4.43 on the combined 7 scales, with a low of 3.84 on the scale measuring religious adjustment, and a high of 4.80 on the scale measuring health adjustment. This compares favorably with the scores obtained on 3 other groups of subjects as indicated in Table 2.

The current MMPI profiles of the subjects were rated by a panel of 5 psychologists, again on a 5-point scale, with a rating of 5 indicating the most healthy end, and a rating of 1 as the most pathological end. Three subjects were rated 5, 23 between 4 and 5, 18 between 3 and 4, 5 between 2 and 3, and 1 between 1 and 2, with a group mean of 3.82.

An appraisal of the overall adjustment of the married subjects, based on the data obtained from the interview with their spouses, was made independently by 3 social workers. Identical ratings were given 19 of the subjects, another 18 subjects were rated identically by 2 of the 3 judges, and only one step off by the third, while in only one case was there lack of agreement between at least 2 of the 3 raters. Two of the men were not rated due to insufficient information, and none of the 10 unmarried subjects was evaluated. The mean rating obtained was 3.16 on a 5-point scale, with a rating of 5 being the ideal, again showing relatively good adjustment. The subjective impression of the 3 raters was that they were confronted with a particularly "normal group of people."

A global evaluation of the subjects based

TABLE 2
Comparison of MSAS Mean Scores

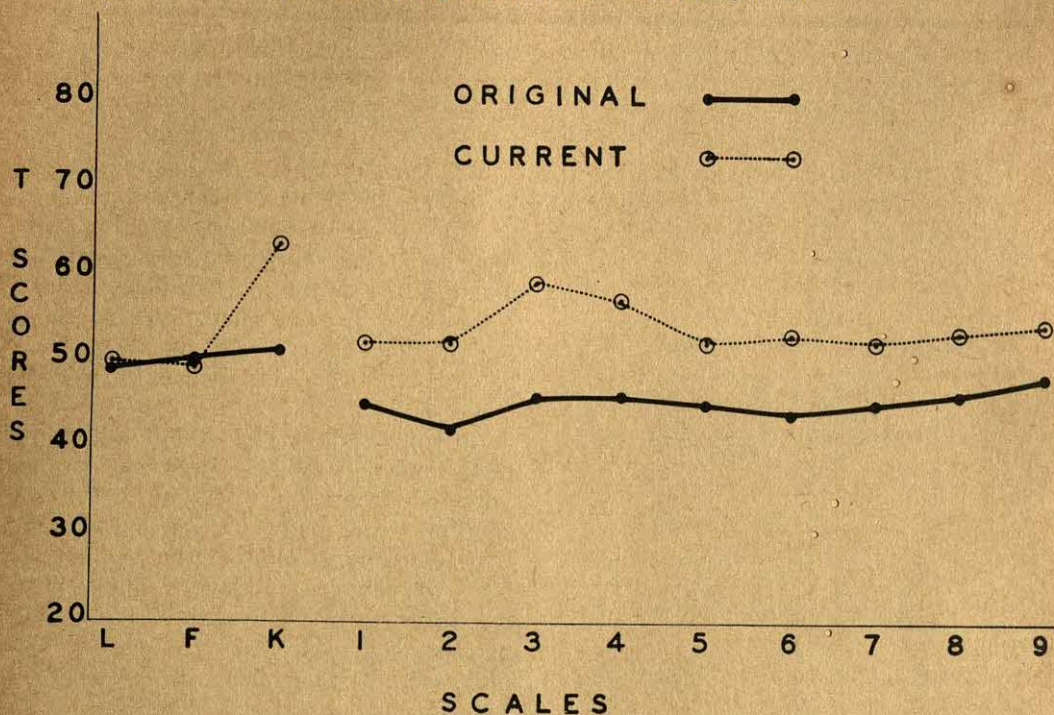
SCALE	STUDY SUBJECTS	U of M STUDENTS ¹	R-E-S-T PATIENTS ²	HOSPITAL PATIENTS ³
I. Occupational adjustment	4.79	4.40	3.84	3.53
II. Family life adjustment	4.39	4.39	3.62	3.52
III. Economic adjustment	4.36	4.41	3.45	3.06
IV. Health adjustment	4.80	4.53	3.42	2.41
V. Religious adjustment	3.84	3.98	3.81	3.46
VI. Residence adjustment	4.71	4.17	4.35	2.86
VII. Community and social adjustment	4.0	4.11	3.08	2.95
Total scale score	4.43	4.28	3.66	3.11
Total subjects	50	29	58	51

¹ University of Minnesota undergraduate students in Family Life course.

² Post-regressive electric shock treatment psychiatric patients from University of Minnesota Hospitals.

³ University of Minnesota Hospital psychiatric inpatients.

FIGURE 2
Comparison of Original and Current Mean Profiles, N=50



on all of the above information resulted in the distribution by diagnostic categories shown in Table 3.

TABLE 3
Diagnostic Categories

No significant symptomatology	23
Psychoneurotic	9
Minimal (5)	
Mild (4)	
Neurotic character disorder	9
Minimal (5)	
Mild (4)	
Psychosomatic disorders	4
Minimal (3)	
Mild (1)	
Character disorders (acting out)	2
Minimal (1)	
Mild (1)	
Pseudoneurotic schizophrenia	2
Mild (1)	
Moderate (1)	
	49

One subject not included as he had Addison's Disease, with psychological symptoms, 3 years before study.

DISCUSSION

Looking at the last table, showing the distribution of the men by diagnostic categories, one might question the validity of the selection process described above for choosing these men. We would like to raise the question, however, as to whether the "range of normal personality" should not include 47 of the 50 men examined. If we evaluate these individuals on the basis of the various definitions of normality described earlier in this paper, we believe that all but 3 of the men would fall within the normal groupings given by the various authors. For example: if we attempted to place our subjects in Epstein's 4 categories, we would find that in addition to the 23 men with no evidence whatsoever of symptomatology, 18% listed in the various diagnostic groupings with minimal disturbance would be consistent with category A, since none of these individuals showed structured psychiatric symptoms, disturbance of social or occupational adaptation, or disturbance of their dynamic integration. About 20% of the men would be placed in group B, because of mild impairment of

their dynamic integrity with the appearance of some anxiety or its equivalent. One subject with a current history of peptic ulcer, and 2 subjects who showed some antisocial patterns, particularly in traffic violations, might be placed in group C because of the social and occupational maladaptation present. Only 2 men, one with moderately severe pseudoneurotic schizophrenia, one with an obsessive-compulsive pattern, could be said to have definitely structured psychiatric symptoms and the other disturbances of adaptation described in group D. Thus, 45 of the men in our sample would probably be considered by Epstein to be emotionally healthy, within the broad range encompassed by his use of that term.

If we appraise these men from the standpoint of Ackerman's criteria, 70% of the men would appear to have an essentially harmonious relationship in the 3 areas described; 30% showed varying degrees of difficulty, primarily within themselves, although in 2 instances the main disturbances were in the significant small group relationships, and in 3 others in the relationship with the larger social group.

If we assume that any symptomatology is evidence of a need for treatment, we would find that 54% of our sample would be in this category, as compared with 57% reported by Bond. However, we would see only one subject as requiring psychiatric help in order to continue some kind of successful adaptation.

It is also interesting to consider some generalizations about the characteristics of the

group, not only as evidence of a current "normal" or "appropriate" adaptation, but also as a prediction for the future involving the impact of these men on their families. The major focus of interest of the subjects appears to be in the home. Those who were married expressed a high order of contentment with their wives and children. There were no separations or broken marriages; with one outstanding exception, the men tended to idealize their wives and the wives were, again with one exception, content with their husbands as stable, responsible, dependable, supportive individuals. If the findings of Epstein and Westley (5) that suggest that the emotional health of children is influenced primarily by the nature of the conjugal relationship are applied to our married men and women, we would predict that the children of the married subjects should develop in a healthy fashion, since the conjugal relationship seems to be so satisfactory in 39 of the 40 married couples.

The marked vocational and residential stability which is characteristic of this group, and the general lack of significant psychopathology, may perhaps be achieved at the price of a more creative, spontaneous type of personality organization. These men were found to have little imagination, and generally limited interests and social activities. They indicate limited educational and vocational aspirations for themselves, and also for their children. This was reflected in the ratings given on various subitems of the psychiatric interviews, with

TABLE 4
Descriptive Categories

- I. Contentment with vocational position: Satisfaction with job level and activities.
- II. Enjoyment of occupation: Extent of pleasure derived from job and associated activities.
- III. Vocational ambition: Vocational goals and aspirations (in relation to estimated abilities and opportunities).
- IV. Parents' previous concern with subject's vocational development: Parents' role in influencing subject's vocational choice and progress.
- V. Contentment with spouse: Satisfaction with choice and relationship with spouse.
- VI. Compatibility with spouse: Comfort in relationship with spouse.
- VII. Effectiveness as a husband: Assumption and performance of the role of head of the household.
- VIII. Effectiveness as a parent: Assumption and performance of parental role.
- IX. Means of handling anger: Mode of expressing assertion and dissatisfaction.
- X. Symptoms: Manifestations or organized psychopathology.
- XI. Wishes for 10 years hence: "What would you wish in 10 years if you could write your own ticket?"
- XII. Use of unlimited finances: "What would you do if you were given \$5 million with no strings attached?"
- XIII. Breadth of interests and pleasures: Range of pleasure yielding activities.
- XIV. Richness of personality: Subject's positive social stimulus value.
- XV. Overall mental health: Degree of adaptational behavior, considering both personality assets and deficits.

TABLE 5
Mean Ratings of Subjects on Descriptive Categories
Derived from Psychiatric Interviews

DESCRIPTIVE CATEGORIES	N	\bar{X}	SD
I. Contentment with vocational position	47	3.53 ¹	.66
II. Enjoyment of occupation	47	3.74	.49
III. Vocational ambition	47	3.79	.62
IV. Parents' previous concern with subjects' vocational development	47	2.92	.55
V. Contentment with spouse ²	38	3.89	.61
VI. Compatibility with spouse ²	38	3.82	.32
VII. Effectiveness as a husband ²	38	3.43	.69
VIII. Effectiveness as a father ²	38	3.48	.77
IX. Expression of anger	47	3.57	.65
X. Symptoms	47	3.77	.92
XI. Wishes (for 10 years hence)	47	3.0	.74
XII. Use of unlimited finances (\$5 million)	47	3.39	.62
XIII. Breadth of interests and pleasures	47	2.40	.74
XIV. Richness of personality	47	2.30	.69
XV. Overall mental health	47	3.32	.66

¹ 5-point scale, with 5 indicating the healthiest or the ideal.

² Only married subjects rated, 2 subjects not rated as wives not seen.

richness of personality and breadth of interests and pleasures being the 2 lowest ratings of the 15 descriptive categories. Contentment with spouse and compatibility with spouse were the two highest ratings, with enjoyment of occupation, and contentment with vocational position also being very high on the list.

CONCLUSION

All of the above raises in our minds a question which has been stated in a number of different ways in the past concerning the balance between the needs and the wants of individuals on the one hand—in this group apparently very much in balance—and the various factors that have been considered to be part of the richer, more creative, spontaneous type of personality. Does "normality," as evidenced by lack of intrapsychic tension, adequate social, economic and familial adaptation, and harmonious integration with other individuals at all levels, necessarily imply a lack of creativity, imagination, and spontaneity? Our data are suggestive of this conclusion. Confirmation would be dependent upon a study of those individuals in the original sample of 1,953 male ninth-graders who have subsequently been more creative, although they showed evidence of some disturbance at that time as measured by their

MMPI profiles; at the very least.

It is our opinion that the 23 subjects described in this study as being free of symptomatology and as having made a stable, successful adaptation, represent a very normal, healthy, socially acceptable and desirable group of individuals. We would feel that an additional 12 subjects represent the broader "range of normal," which allows for some degree of intrapsychic tension and some minimal adaptational difficulties, none serious enough to interfere with a basically adequate and successful social and economic adjustment. The remainder of the group, with 2 exceptions, while having somewhat greater difficulty in making an adaptation, are still quite successful in most areas and will probably continue to make a successful adaptation without psychiatric help, although perhaps at the cost of greater tension and psychic stress and strain than might otherwise be the case.

The authors believe that the characteristics of this group of subjects are consistent with a general conception of the well adjusted average American male. Further, that these multi-dimensional data provide a meaningful baseline of personal adaptation within contemporary American society to which other groups may be compared.

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DISCUSSION

N. B. EPSTEIN, M.D. (Montreal, Canada).—I would like to congratulate the authors on their courage in venturing into this field of study, which seems to repel scientific investigators. The reasons for this avoidance include : (a) the complexity of the problems ; (b) the lack of adequate methodological techniques for tackling them ; and (c) the subject is laden with emotion due to the inherent value judgements necessarily involved. The investigator venturing into this field automatically becomes a target for attack by all sides.

I wonder whether in the attempt to avoid observer distortion, the authors have not merely substituted the distortions by the MMPI for the distortion by human observers. The authors have demonstrated that the MMPI is a reliable test, *i.e.*, it measures what it does measure with consistency. In my opinion, however, it is doubtful whether it has been shown categorically that this test is a valid test for the measurement of "normality," or, to use a term I prefer, "emotional health." At the present level of development in this field, no one test could be validated for the measurement of "normality" or "emotional health" for the simple reason that there is as yet no agreement as to what constitutes such emotional health. At best, it can be said that a given test might measure some elements, which some observers might agree constitute an acceptable definition of emotional health.

In the present study the authors *a priori*

accept certain results on the MMPI as denoting normality, *i.e.*, those subjects having a profile on the test with no score above 55. They selected 50 subjects meeting these criteria and proceeded in a well designed program of psychosocial investigation. They then report the results of this investigation as being characteristic of "normality." One can only agree with this conclusion, if one agrees with the authors' *a priori* acceptance of certain results on the MMPI as denoting normality.

The results strongly indicate that according to the criteria accepted by the authors the test measures primarily the factor of adjustment. They state, "the authors believe that the characteristics of this group of subjects are consistent with a general conception of the well-adjusted average American male." They imply in several places that a well-adjusted person is a normal or a healthy person. If one accepts this equation of adjustment with normality or emotional health, there is no argument. However, it is on this point that I am sure the authors will meet with a high degree of controversy.

Many writers have noted that adjustment cannot always be equated with emotional health, but that often a high psychic price is paid for such adjustment. Such writers give a more extended statement as to what is involved in emotional health. The present authors have mentioned several such statements and definitions. Bond(1) is quoted as stating : "Normal does not mean average—normal does not mean uninteresting—normal is not perfect—a normal person is not one who has no problems."

The authors obviously recognize this problem and question whether adjustment is equatable with emotional health. They note "The marked vocational and residential stability which is characteristic of this group, and the general lack of significant psychopathology, may perhaps be achieved at the price of a more creative, spontaneous type of personality organization. These men were found to have little imagination, and generally limited interests and social activities. They indicate limited educational and vocational aspirations for themselves and also for their children." They raise the following basic and most important question : "Does adequate social, economic and familial adaptation, and harmonious integration with other individuals at all levels, necessarily imply a lack of creativity, imagination and spontaneity?" They answer this question by stating : "Our data are suggestive of this conclusion." On the basis of our experience in this same general area over the past 6

years in the McGill Human Development Study, I feel that the reason the data in this report are suggestive of the above conclusion rests in the methodological trap in which the authors have been caught by their implicit equation of "adjustment" with "emotional health." This in turn results from their *a priori* acceptance of certain results in the MMPI as indicating "normality" or "emotional health."

In our study we were unable to discover a test procedure which would in itself give a satisfactory measure of emotional health as we defined it(2). We found it necessary to develop a schema to classify and rate emotional health. This schema depended upon findings derived from intensive psychiatric interviews and various projective techniques given to our subjects. This schema is reported in detail in this paper.

Before such a schema could be developed it was necessary to agree among ourselves upon a satisfactory model of emotional health, the developmental basis of which we reported in some detail(2). This model is too complex to discuss now, but it was largely based on a previous model developed by Jahoda(3). Jahoda suggested that a combination of the following 3 criteria be used for the determination of emotional health:

1. "Active adjustment or attempts at mastery of his environment as distinct both from his inability to adjust and from his indiscriminate adjustment through passive acceptance of environmental conditions.
2. "Unity of his personality, the maintenance of a stable, internal integration which remains intact notwithstanding the flexibility of behaviour, which derives from active adjustment.
3. "Ability to perceive correctly the world

and himself."

The model developed by us requires that the individual strives to fulfill his psychobiological and social endowments to an optimal level whenever and wherever possible in order to meet the criteria of emotional health. In this type of model, passive, indiscriminate adjustment is not equated with emotional health. "Normality" as defined in this model does not imply a lack of creativity, imagination and spontaneity. We are not yet satisfied that our model is complete; it is still primitive and demands further development. What is needed is the development of a comprehensive list of the endowments of the human organism. Once this is attained, it should be relatively easy to assess whether and to what degree the individual fulfills his endowment. It is our belief that there already has been a sufficient accumulation of data in the behavioral sciences to begin moving forward once agreement has been achieved as to the basic principles involved.

The paper being discussed is an excellent example of the work that can and should be done. The criticisms I have raised in no way devalue the fine work of the present investigators. They are merely intended to outline in further detail the problems and obstacles faced by those venturing into this complex field.

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AMNESIA : A CLINICAL STUDY OF NINETY-EIGHT CASES¹

THEODORE A. KIERSCH, M.D.²

Amnesia is defined as loss of memory, and is a clinical symptom which is seen in a variety of conditions. It has been exploited in that field of literature which deals with crime, detective stories, and fiction. It has always been considered one of the easiest symptoms to simulate, and one of the hardest to disprove.

A review of the existing literature(1-13) reveals conflicting statements about the nature of the origin of amnesia and the characteristics of various types of amnesia. It was consequently felt that a need existed for a more tangible method of differentiating the various types of amnesia, and for statistical data to support the diagnostic criteria for various types of amnesia.

Forty-five frequently listed characteristics of various types of amnesia were compared in over 100 cases claiming current or recent past amnesia admitted to a hospital during the past few years. Each case was evaluated from a careful historical viewpoint to record in detail the various claimed characteristics of the amnesia and to evaluate the pre-amnestic personality. Attempts were made to obtain as much collateral information as possible to evaluate the circumstances surrounding the development of the amnestic symptoms as well as the actual behavior of the individual during the alleged amnesia. Each case was also completely examined in repeated interviews, physically, neurologically, and each received an electroencephalogram, a complete battery of psychological tests and underwent attempts at hypnosis and, finally, was examined under the influence of amytal.

To date, 125 cases with amnesia as a prominent symptom or the presenting complaint admitted to one of two army general hospitals were included in this study.

The first 30 cases were evaluated in the form of a pilot study, and from this it be-

came apparent that some modifications in the study were necessary. For instance, it was determined that amytal interviews as well as hypnosis were necessary to evaluate the amnestic symptom; 12 cases in which the amytal interview had been omitted had to be dropped because of this fact. Fifteen additional cases, originally included in the study, had to be dropped because some were dependents who refused to participate and a few patients went AWOL before the study was completed. This report, therefore, concerns the remaining 98 completed cases.

Patients who presented a history of brief amnesia with a seizure or who had witnessed seizures were excluded because a similar type study with suspected epileptics had been previously reported(13). The patients included in this study were otherwise selective only in that the majority were relatively young military male personnel. The final group includes only 6 females who were either on active duty (WACs) or were civilian dependents of military personnel. The study patients varied in age from 19 to 45 with the majority in the 21 to 30 age group.

FINDINGS

The detailed study of these 98 cases and attempts to classify them led to the conclusion that there were in fact 4 main categories of amnesia and some identifiable sub-categories. Figure 1 presents the overall results as well as a proposed system of classification.

Included in the feigned category were those cases which, in the course of the study, admitted under hypnosis or amytal, that they were in fact feigning amnesia, and explained the reasons on a logical reality basis. Of the 41 cases in this category 25 subsequently admitted in a conscious awake state that they were feigning amnesia; 16 of the 41 cases would not and did not subsequently, in an awake state, admit that they had feigned amnesia. In spite of the fact that the patient was under hypnosis or amytal, the admission was accepted

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Director Mental Health, Univ. of Illinois Health Service, Champaign, Ill.

FIGURE 1

I. Feigned	41	
A. Confessed or admitted consciously	25	
B. Admitted only under hypnosis or amytal	16	
II. Psychogenic	20	
A. Repression	15	
B. Suppression	5	
III. Organic	24	
A. Organic brain syndromes (trauma, Korsakoff's, etc.)	18	
B. Toxic states (acute alcoholism)	6	
IV. Mixed	13	
A. Alcohol plus exaggeration	8	
B. Psychogenic plus exaggeration	5	
Total	98	98

only after a logical reality oriented reason was offered for feigning.

In the psychogenic group (20 of the 98 cases) 15 fell into the so-called classical psychogenic dissociative or fugue-like state, utilizing the unconscious mental mechanism of repression. Five of the 20 were psychogenic amnesia cases who, because of some severe reality factors, apparently consciously told themselves they would not remember. These 5 individuals invariably ran away from a traumatic situation, and successfully consciously induced amnesia in that although they initially told themselves that they would not remember, they subsequently believed and behaved as though they were amnesic. These 5 cases apparently utilized the conscious mechanism of suppression. It is this group that accounts for the difficulty in distinguishing malingering from true amnesia. Although this group may be considered borderline, they differ from the feigned group in that because of the successful use of suppression they were not lying when they said they did not remember. They believed they did not remember. The majority of the feigned group, however, eventually admitted they did remember and admitted that they had been lying.

The organic group included a whole variety of causes including trauma, cerebrovascular diseases, gunshot wound of the head, Korsakoff's, and simple alcoholism. It is interesting to note that none of the cases of amnesia included under simple alcoholism lasted more than 28 hours.

The fourth and last main group is la-

belled mixed because it consisted of various combinations of the above 3 factors. The largest single group in the mixed group was 8 cases of alcoholism plus exaggeration. These cases were individuals with some true toxic organic alcoholic amnesia but invariably involved periods of many days to weeks or months. It was determined that although these persons were amnesic for periods within the alleged prolonged amnesia, they invariably did have memory for periods when they would awaken in a strange town or awaken from sleep and have recall for that period of time until they began drinking excessively again. One conclusion reached from the study of amnesia associated with alcoholism was that the true acute toxic or alcoholic amnesia last only while the individual is under the influence of significant amounts of alcohol. All alcoholic cases claiming amnesia for many days proved to fall in the mixed group which includes exaggeration or feigning in addition to true brief periods of amnesia. Another category in the mixed group that deserves special comment is the psychogenic plus exaggeration. There were 5 patients in this group. Again based upon the study, it was learned that a true psychogenic amnesic repression-type episode occurred which may have lasted minutes to an hour or two, but the patients exaggerated and claimed amnesia for considerably greater lengths of time. It was as if there was a conscious effort on the part of the patient to make the psychogenic amnesia yet more remote by enlarging the period of amnesia. Obviously other possible combinations of mixed amnesias exist, such as organic plus psychogenic, or all 3 types in a single case; however, in the reported study apparently by chance these did not occur.

Of the various claimed amnesic settings and characteristics a few lend themselves to analysis and some possible conclusions or assumptions. None of the following examples is presented as conclusive, irrefutable characteristic of any one type of amnesia, but some very obvious trends can be identified. Of the 98 cases, 32 were hospitalized who were under court-martial charges or were being investigated for alleged offenses that would in all probability result in legal action.

FIGURE 2

I. Feigned	
A. Confessed	12
B. Admitted under hypnosis or amytal	9
II. Psychogenic	
B. Suppression	1
III. Organic	
A. Organic brain syndrome	1
IV. Mixed	
A. Alcohol plus exaggeration	7
B. Psychogenic plus exaggeration	2
Total	32

Figure 2 shows the breakdown of these 32 cases. It is quite apparent from this that 21 of the 32, or 66% fall into the feigned group, 1 into the true organic group, 1 in the psychogenic suppression group, and the remaining 9 into the mixed or questionable group. From this study one might conclude that anyone in serious legal difficulty who claims amnesia will prove to have either a feigned or questionable amnesia.

Thirty of the 98 cases were quite suggestible and could be hypnotized to a relatively deep trance.

FIGURE 3

I. Feigned	13 of 41
A. Confessed	4
B. Admitted only under hypnosis or amytal	9
II. Psychogenic	11 of 20
A. Repression	10
B. Suppression	1
III. Organic	6 of 24
A. Organic brain syndrome	5
B. Toxic state	1
IV. Mixed	0 of 13
Total	30

Figure 3 breaks this group down into the various types of amnesia. It is obvious that no remarkable conclusions can be drawn. Fifty-five percent of the psychogenic amnesia cases could be hypnotized, and 22% of the feigned amnesia cases. Certainly there is a trend here, but this is not felt to be conclusive.

Another characteristic that was cross-checked against these 98 cases was the inconsistencies in the patients' histories as related to various examiners, or demonstrated to the same examiner during subsequent interviews.

Figure 4 shows the breakdown of this

FIGURE 4

I. Feigned	15 of 41
II. Psychogenic	5 of 20
III. Organic	2 of 24
IV. Mixed	5 of 13

characteristic by type of amnesia. Again, a trend is readily visible, namely, that inconsistencies are most prominent in cases of feigned amnesia, and the questionable mixed types.

Of the 98 cases, 13 claimed or demonstrated a loss of personal identity. Figure 5 indicates that this characteristic occurred in all groups in reasonably proportionate numbers and demonstrates no significant trends.

FIGURE 5

Feigned	4
Psychogenic	5
Organic	3
Mixed	1

Of the 98 cases, 20 claimed head injuries. Figure 6 indicates that if we exclude those cases of known severe head trauma with neurological findings, skull fractures, coma, etc., all other cases claiming head injury fell into the category of feigned or the questionable mixed group.

FIGURE 6

I. Feigned	10
II. Psychogenic	0
III. Organic	8
IV. Mixed	2

An attempt was made to evaluate the pre-amnestic personality and correlate this with the type of amnesia finally determined to exist. As may be expected, a higher percentage of character and behavior disorders were found in the feigned group, and a higher percentage of immaturity reactions were found in the psychogenic group. The figures demonstrated, however, only a moderate trend and were not felt to be conclusive.

In each case the intelligence was measured. This also proved to be of little or no value. The range was 69 to 125 in the feigned and mixed group, and 67 to 132 in the true amnesia group.

The EEG studies were of relatively little value: 30% of the organic group had grossly abnormal EEGs as might be expected. The incidence of borderline or abnormal

EEG in the other 3 groups was equivalent to the expected rate of chance abnormality in the average population.

Each patient was given a complete battery of psychological tests, including the Rorschach, Wechsler-Bellevue, MMPI, Bender Gestalt, Picture Frustration Study, and Level of Aspiration Test.

A detailed statistical analysis of psychological test variables yielded no significant results. Attempts were made, for example, to correlate the various groups with such things as the F score on the MMPI. There appeared to be no correlation. Of course, psychological examination was an invaluable aid in evaluating the subjects' personalities and as an aid to final diagnosis.

Other characteristics such as duration of the amnesia, retrograde or anterograde features, recurrences, amnesia for friends, preservation of non-personal memory, double personality, type and rapidity of recovery, resistance to hypnosis and apparent lack of concern over what the patient did while amnesic, when cross-checked against the various types of amnesia revealed no consistent findings. A few additional general comments may, however, be applicable.

Twenty-three of the 25 cases of admitted feigned amnesia claimed or demonstrated rapid recovery from the amnesia. Fourteen of the 15 cases of the psychogenic repression-type never could or would consciously recall the events which occurred during the amnesic episode; 3 of the 5 psychogenic suppression-type cases did eventually recall. None of the 20 organic amnesias could recall completely the amnesic episode although the duration of the episode could be shortened, *e.g.*, the retrograde portion of the amnesia in head injury cases could be recalled or significantly decreased in duration.

CONCLUSION

This study began as an attempt to identify common characteristics of various types of amnesia. The study demonstrated some significant trends for certain characteristics to be present or claimed in various types of amnesia. However, the study did demonstrate the need for a new system of classification. Such a classification is proposed, consisting of 4 main headings with a few

sub-categories under each main heading.

COMMENT

Extensive use in this study was made of hypnoanalysis and narcoanalysis. One or more hypnotic sessions were attempted in each case. A permissive hypnotic approach was used. Every case was subjected to an amytal interview using sodium amobarbital intravenously. The minimum amount used was 6 grains (0.36 gr.) and the maximum 22½ grains (1.5 gr.). The average patient was given 10 to 15 grains of amytal and the interviews lasted from 30 minutes to 2½ hours. The amytal interview was conducted only after as much collateral information as possible could be collected in order to check the information obtained under amytal against known facts. Every effort was made to be objective and not suggest answers to the patient. No physical complications arose as a result of the amytal interviews.

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MODEL PSYCHOSES AND SCHIZOPHRENIA¹

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INTRODUCTION

The intact, normally functioning, awake organism operates in a milieu from which a dynamic flux of input stimulation is continually received. Adaptive organismic accommodation to this input entails: 1. A receptor system for external stimuli; 2. A receptor system for internal stimuli including those from muscle, joints, and viscera; 3. A system for filtering the diverse sensory input and integrating and interpreting it; 4. An effector system involving autonomic and volitional motor acts; and 5. A chemical energy production system necessary for the adequate evocation of reactions in each of the separate systems mentioned.

If psychotic behavior involves alterations in the functioning of these systems, then experimental techniques that alter them in control subjects should produce psychotomimetic effects. To evaluate this proposition, we have conducted a series of studies in which psychological disorganization was acutely induced by means of (1) sensory isolation, (2) drugs, (3) sleep deprivation, and (4) combined sensory isolation and drugs in control subjects. A comparable series of observations was obtained when chronic schizophrenic patients were subjected to some of the same experimental conditions. The object of these studies was to attempt to isolate the phenomena pertinent to the understanding of the schizophrenic process from the epiphenomena associated with the experimental state. In this way we were attempting to overcome the objection that model psychoses as artificial states do not implicate mechanisms of the naturally occurring illness.

SLEEP DEPRIVATION

Sleep deprivation has served as one of the more useful model psychoses because

its gradual development and comparatively long duration allow for the study of a number of response systems. Luby, *et al.*, sleep-deprived 12 non-psychotic men for 123 hours and studied behavioral, psychological, biochemical, and autonomic changes (1, 2, 3).

The behavioral sequelae were very similar to those described by Tyler (4), Williams, *et al.* (5), and Brauchi and West (6). Lapses in attention and ongoing behavior, related to Morris, *et al.* (7), to brief periods of sleep or drowsiness, were common to all subjects. Gradual progression of visual changes from diplopia to illusions and finally to hallucinations occurred with similar frequency.

The visual phenomena were commonly described as fog, mist, or smoke issuing from under doors or from the walls. Geometric designs of great complexity were seen by an artist and confirmed in a kind of *folie à deux* by a younger subject whom he had treated paternalistically since the inception of the experiment. Periods of splitting of consciousness were reported, characterized by the feeling of being in two places at once. These hypnagogic or dreamlike states were responsible for inappropriate responses or behavior for which the subject was amnesic.

Body image changes included feelings of numbness and depersonalization. The sensation of being detached and observing one's own body from a distance was reported by some subjects. The experience of the "hat illusion" was reported by every participant in the project.

Of interest was the initial veridical questioning of hallucinations by subjects, followed by acceptance and belief as they continued. Although most subjects became paranoid, systematized delusions occurred in only one man who had residues of paranoid thinking up to one month.

The autonomic studies of Ax and Luby revealed a progressive decline in activation or level of arousal as determined by palmar

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conductance, galvanic skin response, frontalis muscle tension, and the response of diastolic blood pressure to a pain stimulus (8). These variables fell significantly throughout the experiment until at 100 hours there appeared to be profound central sympathetic fatigue. This was particularly manifest when diastolic blood pressure paradoxically fell in response to a pain stimulus.

Biologic energy production was studied by measuring the specific activity of adenosine triphosphate (ATP) in red cells together with levels of the total adenine phosphates at various times during the course of the sleep deprivation. High energy phosphate formation as measured by the specific activity of ATP in the subjects' own erythrocytes was stimulated in the initial phase of sleep deprivation. Levels of the adenine phosphates paradoxically fell and remained low throughout the experiment. Between 90 and 120 hours the mechanisms associated with energy production began to fail and ATP specific activity dropped precipitously. At this time a substance was elaborated in the serum of sleep-deprived subjects which inhibited succinic oxidase activity in rat liver homogenates. Inasmuch as the serum had been dialyzed, this substance was probably a protein or a polypeptide, but no efforts have as yet been made to characterize or isolate it.

Motor performance tasks were correlated with depletion of high energy phosphorylation and diminished central sympathetic reactivity. Between 80 and 100 hours subjects were no longer able to dissipate work inhibition with brief rest, suggesting severe impairment of energy restorative mechanisms. The number of "lapses" or periods of no response to the testing situation reached a peak at this time.

The psychopathology and the performance decrements on psychological tests associated with sleep deprivation were interpreted within the framework of the "lapse hypothesis" promulgated by Williams, Lubin, and Goodnow(5). A "lapse" can be defined as a period of no response in which external sensory input is cut off and internal input is attended to presumably because the subject is drowsing. Lapses reach their peak intensity and frequency when phosphate

esterification becomes depleted and central sympathetic responsivity is considerably diminished.

It can be hypothesized that attention to external sensory input requires greater sympathetic arousal and mobilization of energy resources than attention to internal stimuli, possibly because the external source necessitates more active and effortful scanning and orientation reactions. The sleep-deprived subject, with his energy resources depleted, will then be likely to react predominantly to these internal stimulus cues, especially during periods where "lapses" or brief periods of drowsiness occur. The subject's behavior at these times can be compared with other conditions in which there is faulty filtering of input and inability to narrow attention or to maintain repression. Moving from one frame of reference to another is admittedly hazardous, but the speculation can be made that maintenance of attention, reticular and sympathetic arousal, and mobilization of high energy phosphorylation are closely interrelated phenomena.

Cohen and Frohman(9), attempting to correlate certain performance tasks with energy production, discovered that there was a significant relationship between increased ATP specific activity in response to insulin and the ability to perform a work output task demanding sustained attention. This relationship was present in both non-psychotic control subjects and in schizophrenic patients. Callaway and Dembo(10) coined the phrase "narrowing of attention" to describe the filtering out of peripheral stimuli (peripheral in terms of time, space, or meaning) and correlated this with the level of central sympathetic activity. Thus ability to mobilize ATP with associated sympathetic arousal may be crucial for sustaining attention and filtering sensory input.

How can these changes in energy production occurring in the sleep deprivation model be related to schizophrenia? Frohman and Gottlieb(11, 12, 13, 14) have reported impairment in the ability of chronic schizophrenic patients to increase ATP turnover and to shift from the synthetic hexose monophosphate shunt to the high energy Emden-Meyerhof scheme of metabolism in adaptive response to an insulin stressor.

The origins of such a defect are obscure but it may be the result of sustained, overwhelming anxiety, a genetically determined enzyme lesion, or inadequate exposure to stressors in childhood as a consequence of maternal overprotection. The last interpretation is suggested by the work of Beckett, *et al.* (15), showing a relationship between the severity of a defect in intracellular energy transfer mechanisms and symptomatology, chronicity, premorbid characteristics, and early parent-child relations.

The presence of an inhibitory substance in the serum of sleep-deprived subjects is of concern because of present interest in a "plasma factor" in schizophrenia. Frohman (16) has isolated an alpha globulin from the plasma of schizophrenic patients which when incubated with chicken erythrocytes shifts intermediary carbohydrate metabolism to more anaerobic mechanisms.

It appears most probable that the phenomena of sleep deprivation are associated with or result from a progressive failure in energy production and central sympathetic responsivity. Although this failure may result from depletion of phosphate esterification, the neurohumoral transmitter substances may be similarly diminished. The presence of a factor in the serum which depresses succinic oxidase suggests that this substance may play an important role.

The question must be asked whether the factor found in the serum of sleep-deprived subjects is related to the active fraction isolated from plasma of chronic schizophrenic patients. The question must also be asked whether the temporary failure in the mechanisms of energy production associated with the stress of sleep deprivation would become irreversible, as seen in the chronic schizophrenic patient, if the sleep-deprived period were extended.

SENSORY ISOLATION

Leaving the questions raised by our studies of sleep deprivation, let us now examine the phenomena produced by sensory isolation and concern ourselves with its possible contribution to an understanding of mechanisms in schizophrenia. When the normal level and quality of sensory influx is drastically reduced or made monotonous in the case of otherwise awake, healthy per-

sons, behavior tends to become disorganized. The McGill group placed volunteer subjects in an extremely monotonous setting for periods ranging from several hours to 6 days. They observed progressive intellectual deterioration and other effects including vivid visual hallucinations (17). Comparable results were reported by Lilly with subjects who were isolated while immersed in a tank of water for 2 to 3 hours (18). Wexler, *et al.*, obtained similar findings with poliomyelitis patients and normal subjects restricted for 8 hours in a tank-type respirator (19).

In general, the more common effects of sensory isolation occur in a fairly consistent sequence. Anxiety and intense discomfort are reported, mild depersonalization and derealization are experienced, thinking becomes less controlled and more reverie-like, and finally visual, kinesthetic, and tactile illusions and hallucinations may occur. Auditory experiences are much less frequent.

In our own laboratories, the hallucinatory perceptions obtained in one hour of isolation were regarded as resulting largely from increased sensitivity to residual stimuli which ultimately generated the fabrication of events in a situation providing only minimal opportunities to test reality. In normal subjects, anxiety and discomfort were typical, but little change in thinking was seen (20).

We interpret these effects of sensory isolation in control subjects in terms of the discrepancy between alert and active reception interpretation systems on the one hand and the abnormally reduced external input on the other. In brief, the state of the intact, awake organism is normally accommodated to a characteristic range of dynamic input. When this input is drastically reduced while reception and interpretation systems are still functioning at their characteristic levels, tensions will accumulate which cannot be adequately discharged in the typical sensory isolation experiment because of the imposed restrictions on movement and activity. Hence, anxiety and discomfort result. Also, residual but ordinarily inconsequential background cues from without or from within the organism are likely to be hypercathected and provide the basis

for illusory and hallucinatory perception.

We have studied the effects of sensory isolation in chronic schizophrenic subjects (20). The most distinctive finding was that the psychotic subjects in poor reality contact showed the *least* discomfort and the most affectively positive reactions to the procedure. They regarded the experience as pleasant and comfortable, and retained calm composure throughout the hour. This was in marked contrast to the reactions of the nonpsychotic subjects as described above. While the schizophrenic subjects did report some hallucinatory perceptions, these were not different from their usual (non-isolation) responses. These results are substantially similar to those reported by Harris for schizophrenic patients (21). Reduction of sensory input did not exacerbate schizophrenic pathology, and in some cases it had an ameliorating effect.

If our interpretation of sensory isolation phenomena is valid, the inference can be drawn that the cognitive organization of schizophrenic subjects is characteristically "geared down" so that they experience difficulty in the central accommodation of normal sensory inflow. The isolation setting, then, may be one which presents to the schizophrenic subject a more balanced relation between input load and reception interpretation capacity. Schizophrenic withdrawal may represent an attempt by the patient to reduce input overload, resulting in a form of learned self-imposed sensory isolation.

PSYCHOTOMIMETIC DRUGS

We turn now to a pharmacological technique in which body feedback mechanisms are apparently disrupted while the subject remains exposed to normal sensory loading. The drug used, Sernyl, (1-(1-phenylcyclohexyl) piperidine monohydrochloride) was originally developed as a preanesthetic and tranquilizing agent. It apparently depressed central integrating mechanisms involving various sensory modalities such as touch, pain and proprioception. Our initial studies with it were prompted by a desire to observe the effects of "interoceptive" sensory deprivation resulting from administration of the drug at dosage levels which permitted

the subject to remain awake and communicate.

The psychopathological effects of Sernyl have been described by Luby, *et al.* (22). When given intravenously to control subjects at a dose level of 0.1 mg./kg. the drug produced a predictable series of changes mimicking the primary symptoms of schizophrenia. Initially alteration of body image occurred with a loss of body boundaries and a profound sense of unreality. Then feelings of estrangement and loneliness ensued, sometimes associated with an intensification of dependency needs and attachment to the observer. Progressive disorganization of thought, inability to maintain a set, loss of goal ideas, impairment of abstract thinking, blocking, neologizing, negativism, and hostility all followed. Some subjects became catatonic and many had dream-like experiences in which they felt as though they were in a different setting at a different time. Genuine hallucinations were not characteristic effects of the drug.

Since distortions of body image and depersonalization were universal reactions to Sernyl and occurred just prior to the other deficits in thinking and affect, it was hypothesized that the effect of the drug was mediated through the reduction of proprioceptive feedback or impairment of the central integration and interpretation of input from this sensory modality. Experiments were next set up by Rosenbaum, *et al.*, to provide data with respect to this hypothesis, employing performance tasks which were considered to depend on an intact proprioceptive feedback system (23). These included measures of attention (reaction time), motor function (rotary pursuit learning), and proprioceptive acuity (weight discrimination). The effects of Sernyl on the tasks were compared with those of lysergic acid diethylamide (LSD) and amobarbital. In addition, a criterion group of chronic schizophrenic patients was tested without drugs in an attempt to find how closely the performance of control subjects under each of the drugs approximated that of schizophrenic patients. The results clearly demonstrated that Sernyl produced severe impairments beyond those attributable to sedation (as seen by comparison with amobarbital) or to some general psy-

chotomimetic factor (as indicated by comparison with LSD). Also, Sernyl was the only drug to produce the level and pattern of deficits shown by the criterion group of schizophrenic subjects. The same results were found by Cohen, *et al.*, with tasks involving symbolic and sequential thinking (24).

The inference was drawn that Sernyl results in schizophrenic-like primary attention and cognition deficits, while LSD simulates secondary phenomena (*e.g.*, hallucinations). The findings were regarded as consistent with the hypothesis of a disturbance in proprioceptive feedback mechanisms in both the Sernyl state and in chronic schizophrenia.

With the hypothesis in mind that Sernyl acts through a disruption in body feedback systems, and that such a disturbance already exists in schizophrenia, it was decided to observe the effects of Sernyl in schizophrenic subjects. The results were quite vivid. Sernyl produced profoundly disorganized regressive states in these patients. Their thought disorders were greatly intensified and considerable affective expression was stimulated. It was as though the acute, agitated phase of the illness had been reinstated. Chronic patients generally became more assertive, hostile, and unmanageable. Unexpectedly, the behavioral changes persisted from 4 to 6 weeks after Sernyl injection in these patients.

Since the administration of Sernyl accentuated schizophrenic symptoms, we concluded that the drug touched upon some fundamental aspect of the disease. Tentatively, we believe this feature to involve central integration of body input or a disturbance in the proprioceptive feedback system.

Having observed that chronic schizophrenic patients tolerated sensory isolation with so much less tension and discomfort than control subjects, and in view of the possible intimate relation between the Sernyl state and schizophrenia, it was considered instructive to observe the reactions of Sernyl injected control subjects under sensory isolation conditions. The data consisted of immediate observations of the subjects and their retrospective accounts of the experience. The results reported by

Cohen, *et al.* (25), indicated that the manifest psychotomimetic phenomena usually produced by Sernyl under non-isolation conditions were markedly attenuated under isolation. The subjects were not asleep and were able to report on their experiences, at least retrospectively, as "nothingness" and "total emptiness." The state was analogized with "death." Compared to non-isolation experiences with the drug, the subjects felt calm and self-controlled.

Our conclusion was that the usual psychotomimetic effects of Sernyl required exteroceptive inputs for their arousal. It occurred to us that the Sernyl engendered state resembled schizophrenia to the extent that subjects under the drug tolerated sensory isolation in a manner similar to that reported by Harris and Cohen, *et al.*, as characteristic of schizophrenic patients. Perhaps both the model psychosis of Sernyl and the clinical psychosis of schizophrenia produce a disturbance in the capacity of the organism to filter and interpret a normal sensory input load. This handicap results in generalized aversion to the complex and dynamic influx that is characteristically provided by the normal sensory environment.

We do not believe that the disturbance is at a receptor or spinal cord site, as evidenced by the fact that the patellar reflex is enhanced (22). A more central system responsible for the integration of exteroceptive with body feedback inputs is probably operative, perhaps at a thalamic or cortical level (26). The appropriate adaptive accommodation of exteroceptive inputs requires that the central system be intact. When it is not intact, the organism will seek and prefer more simplified and monotonous environments, and will withdraw from those that are more complex and changing.

DISCUSSION AND SUMMARY

All model psychoses may be conceptualized as resulting from disruption in the central processing or from interference with the normal sensory influx from body or distance receptors. The experimental findings of the effects of sleep deprivation, sensory isolation, drugs, and a combination of drugs and sensory isolation in control and schizophrenic subjects warrants the devel-

opment of a hypothesis within this context to explain some of the mechanisms responsible for schizophrenic behavior. Such a hypothesis must be operational in the sense that its elements must be susceptible to experimental verification.

Evidence has been presented that sleep deprivation is at first accompanied by an adaptive high biologic energy turnover, but that finally a point is reached after several days when energy producing mechanisms decompensate. Moreover, it appears possible that a "stressor substance" develops in the serum of these subjects which may be responsible for the progressive failure of the mechanism of energy turnover.

While the failure in the mechanism of adaptation for supplying the needed biologic energy for sleep-deprived subjects is reversible, one may ponder about its relationship to the permanently disturbed mechanisms controlling the formation and utilization of biologic energy that characterizes the chronic schizophrenic patient. Two questions are pertinent. Do traumatic sociopsychological experiences at an early period of life when these biochemical mechanisms are in the process of maturation limit their adaptive responsivity? Conversely, does inadequate exposure to normal sociopsychologic stressors at a critical maturational period inhibit their development?

How does the succinic oxidase inhibiting "stressor" substance in the serum of persons deprived of sleep relate to the alpha globulin in the serum of schizophrenic patients, which shifts intermediary carbohydrate metabolism to more anaerobic mechanisms? Only further study will tell, but it is conceivable that they are related.

Nevertheless, the alpha globulin isolated by Frohman and others from the plasma of schizophrenic patients apparently affects neutral transmission centrally. It alters the behavior of monkeys and rats and according to Marrazzi inhibits transcallosal synaptic conduction (27, 28). This need not necessarily imply ease of passage through blood brain barrier because the protein may act by increasing permeability or as a carrier system for a smaller molecule. Our studies on model psychoses can, perhaps, contribute to a hypothesis concerning the mechanism of action of this substance.

Meaningful exteroceptive input is necessary for normal psychological functioning, but apparently induces aversive responses in schizophrenic patients. This suggests that the central stimulus filtering and interpretation capacity of these patients is diminished. Conceivably the defect may be similar to that produced by Sernyl and involve the disruption or reduction of body input transmission and integration.

In Kubie's parlance, when the subject's image of himself, "the I," is destroyed, the ability to assess external reality or the "not I" is lost (29). As Federn suggested, depersonalization may be the core of schizophrenia (30), and disturbed body input transmission or integration may be its basis. In our hypothesis such disturbed neural integration in schizophrenia might result either from the presence of an inhibitor substance or from a defect in energy production.

Analogous situations in the animal can be produced by psychotomimetic drugs such as Sernyl or by lesions in lateral mid-brain involving tracts mediating touch, proprioception, and pain. Sernyl has been shown by Lees to be an uncoupling agent (31). It may thus reduce available energy stores, although admittedly other uncoupling drugs do not produce psychotomimetic effects. That Sernyl has profound action on central reception and integration of body input is evidenced by the work of Van Meter, *et al.* (32), and Domino (26). At the cortical level both axosomatic and axodendritic synapses are partially blocked by the drug. There is also evidence for depression of the diffuse thalamic projection system.

Recent work on destruction of lemniscal pathways in the cat by Sprague, Chambers, and Stellar might lend additional support to our hypothesis. When the sensory afferent systems mediating proprioception, pain, and touch in these animals were cut, severe behavioral changes occurred. The cat was rendered incapable of attending to or making adaptive responses to relevant stimuli associated with eating, sexuality, or defense. Emotionality was diminished and the cats seemed flat and automaton-like. At times they appeared to be hallucinating (33).

These disrupted body input mechanisms

may be considered as responsible for the disturbances in psychological functioning of the schizophrenic patient. This aspect of our hypothesis could be easily subjected to direct test if the human brain were readily available for experimentation and study. Being realistic, however, we must have recourse to analogous study in animals to increase our knowledge. This prolongs and complicates the challenge.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

A COMPARISON OF A RECENTLY INTRODUCED PHENOTHIAZINE DERIVATIVE (MDS 92) AND A PLACEBO IN CHRONICALLY ILL MENTAL PATIENTS

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AND JACKSON A. SMITH, M.D.¹

Thirty chronically disturbed female patients on a continuous treatment ward in a state hospital were included in the study. The usual behavior pattern of these patients was known. Their ages ranged from 20 to 64 years. Average length of hospitalization was 11.8 years. The diagnoses were: schizophrenic reactions, 25, and involutional psychotic reaction, 5. The drug used was MDS 92 (hydroxyethyl piperazine propyl phenothiazine maleate).

METHOD

The project was carried out as a "double-blind" study with a cross over. The 30 patients were divided randomly into subgroups A and B. One group received MDS 92 and the other the placebo. The active preparation was prescribed in increasing doses every 10 days (see Table 1). At the end of 30 days a "cross over" was carried out with the group which previously received the inactive compound receiving the drug. The active medication and the placebo were prepared in identical capsules.

TABLE 1
Dosage and Administration

	MDS 92	PLACEBO
1st to 10th day	30 mg. daily	—
11th to 20th day	50 mg. daily	—
21st to 30th day	100 mg. daily	—

¹ Staff of the Illinois State Psychiatric Institute, Chicago, Ill.

This study was done at the Chicago State Hospital and the cooperation of Dr. H. Maltz, Superintendent, is appreciated.

Appreciation is expressed to Wyeth Laboratories, Randor, Pa., for the supplies of MDS 92.

Neither the patients nor the observer were aware whether the drug or the placebo were being given.

Evaluation of Behavior Change. A research nurse who was an experienced observer used standardized evaluation forms previously described² to record any change that was seen in the patient's behavior. She made a complete control evaluation of each patient immediately prior to the start of the project and at the end of each month, in addition to weekly progress notes. A psychiatrist worked with the research nurse and evaluated side effects from the drugs. Complete blood counts and liver function tests (alkaline phosphatase and thymol turbidity) were done weekly throughout the length of the study.

RESULTS

The patient's clinical response during the study was tabulated as worse, no change, slightly improved, moderately improved and markedly improved. The final results are shown in Table 2.

TABLE 2

	Worse	No Change	Slightly Improved	Moderately Improved	Markedly Improved
MDS 92	1	11	6	11	1
Placebo	17	12	1	0	0

The criteria for evaluation were the observed decrease or increase in the following variables of behavior: overt hostility, tension, agitation, attempts to communicate,

² Smith, Jackson A., Christian, Dorothy, Mansfield, Elaine, and Figeredo, Alfredo: *Am. J. Psychiat.*, 116: 392, Nov. 1959.

cooperation, friendliness, attention span and alertness, interest in personal appearance, mannerisms, participation in activities, or a change in delusions and hallucinations. Patients considered slightly improved showed favorable change in 2 or 3 variables; those moderately improved showed this change in at least 4 or 5 variables; marked improvement reflected change in 6 or more of the listed variables; a patient was considered worse if an unfavorable change was noted in 2 or more of the variables.

There was a consistent variation of patients' weight during the 2-month study depending on whether they were on the active preparation or the placebo. Eighteen patients gained from $\frac{1}{2}$ to 10 pounds (average $4\frac{1}{2}$) while receiving MDS 92; and 16 of them lost 1 to 12 pounds (average $3\frac{1}{2}$) during the time they received placebo.

Although these patients showed variations in their weight from time to time, these differences were more consistent and

more marked than the incidental changes usually seen.

SIDE EFFECTS

Several mild side effects were observed during the administration of MDS 92. However, they were easily controlled by reducing the dose or with antiparkinsonian medication. It was not necessary to discontinue the medication in any case during the study. The side effects observed are shown in Table 3.

TABLE 3

	MDS 92	PLACEBO
Mild leukopenia	2	1
Edema	1	
Tremor	4	
Muscular rigidity	3	
Increased agitation	0	12
Temporary visual disturbances	2	
Slurred speech	1	

THE PREDICTION OF RESPONSE TO TRANLYCYPROMINE PLUS TRIFLUOPERAZINE BY THE MMPI¹

EDWARD S. SULZER, PH.D., AND BURTRUM C. SCHIELE, M.D.²

The clinical experiences of several psychiatrists in this area, as well as the experiences of other physicians reported in this Journal (1-6), have indicated that in combination, tranlycypromine (Parnate)³ plus trifluoperazine (Stelazine)⁴ have positive effects in the treatment of certain psychiatric patients. Claims of success have been made especially for patients described as chronically depressed and as having numerous neurotic characteristics. While many of these patients are reported to show marked improvement on the combined drug schedule, other patients reveal little or no change. Therefore, it would appear to be of

considerable utility if we might discern in advance which particular patient or patients would be most likely to benefit from this drug combination.

The Minnesota Multiphasic Personality Inventory (MMPI) (7) is a psychological instrument that has been used widely in assessment procedures and in the evaluation of psychiatric treatments (8-11). In an effort to determine the potential predictive utility of the MMPI, we have gathered a sample of 31 cases in which the psychiatrist has reported substantial clinical improvement following a period of tranlycypromine and trifluoperazine ingestion. From the same psychiatrists, we have gathered a sample of 21 cases in which little or no improvement was reported. All 52 patients received the medication for a period of no fewer than 5 days and had been given the MMPI prior to the drug treatment.

The 52 patients were all described as

¹ This investigation was supported, in part, by a PHS research grant, MYP-5106, from the National Institute of Mental Health, Public Health Service.

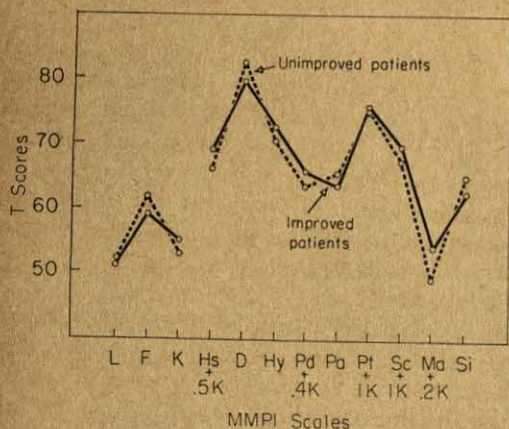
² Respectively, Instructor and Professor, Dept. of Psychiatry and Neurology, University of Minnesota Medical School.

³ Smith Kline & French.

⁴ Smith Kline & French.

presenting the characteristics cited above, and therefore being the most appropriate group for the treatment. However, variables such as age, sex, and other clinical characteristics could not be readily controlled. We simply requested that the pre-drug MMPI be furnished us along with the psychiatrist's opinion as to the presence or absence of substantial clinical improvement in behavior.

Mean MMPI Profiles for Improved and Unimproved Patient Groups



The mean T scores for the 3 validity scales and the 9 most commonly used clinical scales on the MMPI were computed separately for the two groups and the results are reported in the figure with the appropriate K corrections. As may be seen, the mean pre-drug profiles are astonishingly similar. Statistically, no difference was obtained in any scale comparison at the .05 level of significance for the arithmetic means.

The findings reported here are such that

we cannot demonstrate the utility of the MMPI in differentiating in advance "good" versus "poor" responders to the combined medication. However, one should bear in mind that many significant variables were left uncontrolled. On the other hand, our results are in accord with the findings of many other investigators when it comes to the prediction of response for a particular treatment in psychiatry. We appear to have little in the way of methods or techniques that permit us to have a substantial amount of confidence in predicting outcomes of treatment. Nevertheless, we should continue clinical investigations such as reported here.

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COMPARISON OF BUTYRILPERAZINE AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIC SUBJECTS

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We have conducted a comparative, controlled, clinical trial of butyrylperazine and trifluoperazine,² phenothiazines of the piperazine series, in chronic schizophrenic

patients. This was a double-blind, cross-over study with fixed dosage regimens and with two placebo intervals.³

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² Denber, H. C. B., Ross, E., and Rajotte, P. : *Am. J. Psychiat.*, 117 : 1119, June 1961.

³ Butyrylperazine (Riker 595), trifluoperazine (Stelazine) and matching placebos were made available by Riker Laboratories, Inc., Northridge, Calif.

MATERIALS AND METHODS

The patients were 44 psychotic hospitalized males with the diagnosis of chronic schizophrenic reaction. The selection criteria were: 1) proper diagnosis; 2) age below 60; 3) absence of organic disease, and 4) discharge not expected within 6 months.

The age range was 18 to 58 years, the mean being 40; the length of hospitalization ranged from 1 to 33 years, the mean being 8.3.

The dosage of butyrylperazine was 10 mg. t.i.d. and of trifluoperazine, 8 mg. t.i.d. Patients were randomly assigned to medication which was so prepared that one bottle contained medication for 2 weeks; six bottles for each patient being sufficient for 3 months. The unknown was administered for 1 month and was followed by placebo for 2 weeks. The second unknown (cross over) was then given for 1 month and followed by placebo for 2 weeks.

All patients were studied simultaneously. Progress notes and a revised MACC behavioral rating scale were performed bi-weekly. These ratings were done by the same person on the same patients. A global rating of "none, slight, moderate or marked improvement" in behavior and content from prestudy status, and a global rating of "none, slight, moderate or marked" change from normal were made bi-weekly. These ratings were performed independently by 3 observers. A final global rating of "none, slight, moderate or marked" improvement was based upon all available data. If a final evaluation was deemed to fall between 2 ratings, it was placed in the lower rating.

RESULTS

The improvement after 4 weeks is presented in Table 1. There was no significant difference between the drugs. The second evaluation, after 10 weeks, is presented in Table 2. Again, there was no significant difference between the drugs.

Butyrylperazine was more effective than

TABLE 1
Global Rating of Improvement—After 4 Weeks

	NONE	SLIGHT	MODERATE	MARKED
Butyrylperazine	8(39%)	8(38%)	2(10%)	3(14%)
Trifluoperazine	6(28%)	7(33%)	4(20%)	3(14%)

TABLE 2
Global Rating of Improvement—After 10 Weeks

	NONE	SLIGHT	MODERATE	MARKED
Butyrylperazine	5(23%)	7(32%)	4(18%)	6(27%)
Trifluoperazine	6(28%)	6(28%)	5(24%)	4(20%)

trifluoperazine in 14 patients; trifluoperazine was superior to butyrylperazine in 13 patients, and both were equally effective or ineffective in 15 patients. Whether butyrylperazine or trifluoperazine was given first did not affect the response to either drug.

No extrapyramidal reactions occurred with either drug in 15 patients. Nineteen patients developed extrapyramidal reaction with both drugs; 5 developed reactions only with butyrylperazine, and 5 only with trifluoperazine. There was no significant difference in the incidence of extrapyramidal reactions between the drugs.

Treatment was not completed in 4 patients. One refused medication, 2 went on unauthorized leave, and medication was discontinued in the fourth because of extrapyramidal reactions.

DISCUSSION

There was no significant difference between the drugs in effectiveness or incidence of side reactions. Some patients responded more rapidly and effectively to one drug than to the other. Improvement which occurred during the first month tended to be maintained or improved further following the crossover. We were unable to determine factors which would help in preselecting patients who responded most effectively to either drug.

SUMMARY

Butyrylperazine, a new phenothiazine of the piperazine series, was compared with trifluoperazine in a 3-month study involving 44 chronic schizophrenic patients. The study employed a double-blind, cross over design using a fixed dosage regimen of both drugs. A 2-week placebo interval was used prior to the cross over and at the completion of the study.

There were no significant differences in therapeutic effectiveness or incidence of side reactions between the drugs. Similarities between the drugs were greater than differences.

FLUPHENAZINE IN CHRONIC REFRACTORY SCHIZOPHRENICS

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A group of 20 chronic schizophrenics who were only marginally controlled were selected for treatment with fluphenazine (Prolixin) in view of fairly good results reported previously with this drug in these groups (1, 2). They were all females on one of the chronic wards of the Dorothea Dix Hospital and were characterized by episodes of severe uncooperativeness, neglect of personal appearance, posturing, delusions, hallucinations and withdrawal. They ranged in age from 27 to 55, and their histories indicated that in all these patients onset of illness had been gradual, while duration of illness ranged from 3 months to 28 years, the average being slightly over 12 years. Previous treatment had encompassed everything imaginable and all were currently receiving other phenothiazines and particularly chlorpromazine (Thorazine) and prochlorperazine (Compazine).

All psychopharmacology was discontinued and fluphenazine, given orally in tablet form, was started at 1 mgm. b.i.d. The dose was raised as felt necessary by the ward physician to a maximum of 15 mgm. t.i.d., the average dose being 5-10 mgm. b.i.d. Treatment lasted for 4 months in most cases.

The patients were evaluated weekly and separately by the ward nurse, the ward physician, and the supervising psychiatrist. The evaluations were made in reference to mood, behavior, attitude, hallucinations

and delusions on progressive comparative charts.

RESULTS

Grossly, the results were that none of the patients showed very much improvement; 4 were considered slightly improved, 7 became worse, and 1 was unchanged. Without going into the particular details of each characteristic evaluated, it was particularly noted that most aggravated were behavior and attitude, as the majority of the group became more unmanageable and uncooperative. In contrast, however, the hallucinatory and delusional material decreased in 6 of the group. None of them improved to the extent that transfer to a better ward was feasible.

Extrapyramidal signs were the most frequent side effects, occurring in 9 patients, and were controlled either by reducing the dose or more usually by adding trihexyphenidyl HCl (Artane). Another prominent side effect was hypotension, and in 3 cases the drug had to be discontinued.

CONCLUSIONS

In light of these findings we can only conclude that fluphenazine is not of any material value over any of the other phenothiazines in the treatment of the chronic refractory schizophrenics.

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¹ Dorothea Dix Hospital, Raleigh, N. C.

OLFACTORY CHANGES IN SCHIZOPHRENIA

A. HOFFER,¹ AND H. OSMOND²

The experiential, phenomenal, or self world of psychiatric patients, all of which is included in Von Uexkull's (6) useful term "Umwelt," has received surprisingly little

systematic attention. Patients frequently have major perceptual changes which can be easily elicited, but these are seldom described or recorded by their doctors. When questioned directly these patients have little hesitation in giving direct answers. Indeed, schizophrenic patients seem to find it easier

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to talk about their present "Umwelt" which they themselves often find troubling and disturbing, than about their feelings regarding events long past which their psychiatrists often consider to be interesting. Perhaps people who do not themselves have perceptual difficulties and who do not remember those which they may have had in their youth cannot imagine how distressing such changes must be. It is not easy for those with ordinary vision to imagine with any degree of accuracy the world of, e.g., a red-green colour-blind person, yet this is a comparatively simple perceptual change affecting about 1 man in 25. William James gives an interesting example of a good visual-imager asking a friend who had poor imagery to explain how he could think or remember. Once one has experienced such perceptual anomalies oneself it is much easier to imagine their effects upon others. One of the uses of mescaline, LSD 25, psilocybin or the more insidious substances such as adrenochrome is to allow those who work with the mentally ill to have at least a glimpse of a psychotic-like experience.

Since 1950 we have taken and observed the effects of most of the known psychotomimetics and have examined autobiographies of a considerable number of patients, many of whom suffered from a variety of schizophrenic illnesses. In consequence we became increasingly aware that perceptual changes occur in schizophrenia far more often than has generally been supposed.

Bleuler's dictum that perceptual changes do not occur in schizophrenia has rarely been challenged directly. It has had to be ignored. Bleuler's idea was that there were primary disturbances of association from which all other changes originated. Kraepelin was not slow to point out that it was impossible to show that changes of association had any particular primacy. It has indeed become evident that perceptual changes are as useful in detecting early schizophrenia as Bleuler's allegedly primary disturbances of association. From their extensive follow-up studies Lewis and Pietrowski(3) selected 10 factors whose presence showed that patients had schizophrenia long before a clinical diagnosis of this illness could be made. Five of those

factors are concerned with perceptual changes.

Rubert, Hollander and Mehrhof(5) found that schizophrenic patients often have olfactory hallucinations. They were just as frequent as auditory hallucinations. They occurred in 19 of 24 acute cases and in 11 of 12 chronic ones. Unpleasant smells were three times as common as pleasant ones. We are not convinced that these olfactory changes should all be lumped together as hallucinations. They might for instance be illusions, or even more likely an increased acuity of the sense of smell for odours which are always there, but not always noticed. The extent to which a smell seems pleasant depends probably upon the concentration of molecules striking the nasal mucosa. Many smells become extremely unpleasant if too concentrated, although not distasteful when weaker; for instance, a mild human body odour may be attractive and even exciting, but in excess it is usually thought to be offensive. At least some of the unpleasant odours of which patients complain may therefore be accounted for by an increased sensitivity (decreased threshold) to odour.

In March 1960 we had a schizophrenic patient who described many perceptual changes but few of them were olfactory. He was treated with 3 gm. of nicotinic acid daily. In October of the same year he returned for a follow-up. He stated that he was well, his wife thought that he was well and he seemed to be well when examined. He was running his business successfully and had no difficulty with his family, friends and acquaintances. However, he had one complaint—his dairy barn he said smelled very bad. He had done everything he could to reduce the odour, including almost excessive cleanliness, air conditioning, deodorizers, etc. It was suggested to him that he might now have some increased sensitivity to smell. He looked startled when we said this and added that when he had been ill and his barn had been neglected, his wife had complained of the stench in it, although he had not then been aware of this. It seems possible that his other perceptual anomalies had prevented him noticing this smell. At least this explanation satisfied him and he continued his recovery with no more difficulty.

Weckowicz(7), Weckowicz, and Hall(8),

Weckowicz, Sommer, and Hall(9), Crooke (1) and Raush(4) have shown that schizophrenic patients had many perceptual anomalies and they suggested clinical tests could be based upon these changes.

Hoffer and Osmond(2) examined the relationship between perceptual changes reported by patients and the presence of unidentified substances (US) in their urine. These were changes reported in the clinical records of the patients. Eighteen of 27 schizophrenic patients with US in their urine had perceptual changes. Only 2 of 11 patients without US had these changes. ($P < .05$). Five of 13 non-schizophrenic patients with US in their urine had perceptual changes, while only 5 of 35 without US had these changes ($P < .05$). For all patients the following distribution was found (Table IX in(2)).

	US PRESENT	US ABSENT
Changes present	23	7
Changes absent	17	39
Chi. Sq.=14 $P < .001$		

Of 40 patients with US present, perceptual changes were present in over 55%, while of 46 without US these changes were present in about 15%.

Using our card-sorting test, in which many cards bear questions dealing with perceptual changes, we found that schizophrenics, patients with toxic psychoses and subjects who had taken LSD 25 placed many more cards in the "true" category

than those with other diagnoses and normal persons. The questions bearing on olfactory perception are :

- #57—Things smell very funny now
- #58—My body odor is much more noticeable than it once was
- #59—My body odor is much more unpleasant now
- #60—I sweat much more now than I used to
- #61—I can no longer smell perfume as well as I used to
- #62—Foods smell funny now
- #129—Other people smell strange

The proportion of patients placing these cards in the box marked "true" is shown in Table 1.

Normal subjects have very few perceptual changes, which of course includes olfactory complaints as well. Non-schizophrenic patients complained of sweating more than they had before they were ill but only 16 of 123 stated that their body odour was more unpleasant. Acute schizophrenics also selected the same three cards (58, 59 and 60) but 9 of 34 claimed their body odour was more unpleasant. (chi sq.=3.5 p 6.5.) Chronic schizophrenics however had many more complaints of a bizarre nature, i.e., that people and things smelled funny. The responses to card 57 are indicative of this.

CARD 57	TRUE	FALSE
Chronic schizophrenic	20	77
Non-schizophrenic	2	121
$X^2=100$		

TABLE 1
Incidence of Olfactory Perceptual Changes in Psychiatric Patients, Percent

N Card	GROUP			SCHIZOPHRENIC	
	NORMAL	NON SCHIZOPHRENIC	ACUTE	CHRONIC 1-10 YEARS	CHRONIC 11-20 YEARS
	100	123	34	63	34
57	0	2	6	18	27
58	0	20	27	16	36
59	0	13	27	20	30
60	1	49	60	27	24
61	1	5	12	19	33
62	0	8	18	17	24
129	0	2	3	25	21

If the amount of sweating is a measure of anxiety as it may well be, then acute schizophrenics were as anxious as non-schizophrenic patients but only about a quarter of the chronic cases had this complaint. This agrees with the clinical findings that chronic patients seem to have less anxiety. The incidence of olfactory changes using our test is somewhat less than that reported by Rupert, *et al.*, but their findings are corroborated.

Smell is a sense which in our Western culture at least has been neglected in recent years, yet olfactory percepts are very closely linked with affect, and in many persons they are extremely evocative of feeling. This suggests a possible explanation for the increasing apathy found in many schizophrenic patients. They are, in fact, being satiated with affect evoking stimuli, so that eventually indifference supervenes. We need very detailed information about the effect of disturbances in single perceptual features upon all perception, and the effect of a variety of simultaneous perceptual disturbances upon affect and thinking. We may then be able to understand better the mechanisms by which schizophrenic illnesses disrupt and distort relationships with other people. It may be that relatively small perceptual anomalies in particular modal-

ities, time sense for instance, may be far more upsetting than larger disturbances in other fields. We suggest that the neglect of these perceptual studies has deprived us of information which is essential if we are to have any deeper understanding of schizophrenia.

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CLINICAL EVALUATION OF CARPHENAZINE AND PIPERACETAZINE IN PREVIOUSLY PLACEBO-TREATED CHRONIC SCHIZOPHRENICS

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WILLIAM MANDEL, M.D.¹

This clinical trial was conducted to evaluate 2 new phenothiazines² in selected schizophrenic patients. One was of the piperazine (carphenazine) series(1), and the other of the piperidine (piperacetazine) series(2).

Eighty chronic schizophrenics were

chosen for this study : (44 women and 36 men, age range 29 to 54 years, mean age 43). They were hospitalized from 4 to 13 years, the mean being 8.6. Diagnoses : 32 paranoid, 13 catatonic, 3 hebephrenic, 32 undifferentiated schizophrenics.

Prior to this study, they were included in a 2-year controlled evaluation of 4 phenothiazines and placebos. During the first year, they received placebos under double-blind conditions for 4 months. There was no appreciable change in their condition. Thirty-nine patients were not given addi-

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² Carphenazine (Proketazine) supplied by Wyeth Laboratories and piperacetazine (Quide) supplied by Pitman-Moore Company.

tional medication while 41 received low phenothiazine doses for 1 to 12 months; only 14 of these 41 patients showed improvement.

Forty-one patients received carphenazine and 39 received piperacetazine concurrently for 9 months. Dosage was started at 25 mg. daily and gradually increased until either intolerance from side-reactions or clinical improvement. The daily maintenance dosage of both drugs varied from 100 to 300 mg., most patients receiving from 150 to 250 mg. Patients who failed to improve or whose condition leveled off after 4 or more months were changed to other phenothiazines.

In addition to observations by personnel previously responsible for their care, the patients were seen biweekly by 2 consultants. Progress notes were made monthly. A global rating of "none, slight, moderate or marked" improvement in behavior and content from the start of the current study was made on the basis of all available data.

RESULTS

There was no statistically significant difference between the ratings of improvement for the 2 drugs (Table 1).

TABLE 1
Global Rating of Improvement

	NONE-SLIGHT	MODERATE	MARKED
Carphenazine	8(20%)	19(46%)	14(34%)
Piperacetazine	14(36%)	8(21%)	17(43%)

Extrapyramidal reactions occurred in 34 of the carphenazine-treated (83%) and in 26 of the piperacetazine-treated patients (67%). There was no statistically significant difference in incidence of these reactions. These reactions were controlled by antiparkinson drugs or by reduction of phenothiazine dosage.

After 4 or more months, medication was discontinued in 9 carphenazine and in 16 piperacetazine-treated patients, because they did not improve or leveled off after initial improvement. Two patients from

each group were transferred to other hospitals and one from each group went AWOL.

DISCUSSION

There were some qualitative differences between the drugs; carphenazine being more rapid in onset and more "stimulant" than piperacetazine. While there was no statistical significance in the numbers of patients treated, more instances of combined moderate to marked improvement and a greater frequency of extrapyramidal reactions occurred with carphenazine. The high incidence of extrapyramidal reactions may in part be attributed to our diagnostic criteria of including minor and transient clinical manifestations of extrapyramidal reactions.

In these schizophrenics who generally failed to improve during a previous 2-year treatment-observation period, 73% showed moderate or marked improvement. The degree of improvement can mainly be attributed to potent drugs given in adequate dosage for many months. In our experience, both drugs compare favorably with available phenothiazine derivatives.

SUMMARY

Carphenazine and piperacetazine, two new phenothiazines, were given to 80 chronic schizophrenic patients for 4 to 9 months. These patients had previously served as control subjects in a controlled drug evaluation and had not improved.

A global rating of moderate or marked improvement over their pre-study status was observed in 73% of the patients. There were no statistically significant differences between the drugs in degree of improvement or incidence of extrapyramidal reactions. Both drugs were considered effective phenothiazines for the chronic schizophrenic patient.

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CASE REPORTS

JAUNDICE FOLLOWING THIORIDAZINE ADMINISTRATION

STANLEY L. BLOCK, M.D.¹

Since the introduction of chlorpromazine (Thorazine) in 1952, a variety of phenothiazines have been developed in an effort to provide greater potency of effect by weight or a modification of molecular structure in order to eliminate the side effects produced by the parent molecule. Thioridazine (Mellaril)² is a representative of the latter group of phenothiazines (1). Since the introduction of thioridazine in 1958, over 140 reports have appeared in the literature (2). All attest to the relative freedom from side effects. We report here a case of jaundice presumed to be the result of thioridazine administration. One previous instance has been reported (3).

The patient is a 79-year-old woman. The family reported increasing confusion and memory loss of 1 year's duration. She had become restless and agitated, seemed unaware of her memory loss, but complained of "nervousness" and loneliness. Examination revealed a cooperative woman who related easily; mood was undisturbed; vegetative signs normal; there was no evidence of bizarre ideation; she was oriented as to time and person but not to place and situation; recent memory and recall were impaired; simple calculations and judgment as measured by interpretation of proverbs showed no impairment.

Blood pressure was 150/80; pulse and respirations normal. Abnormal physical findings were: fundi showed moderate silver wiring and A-V nicking; marked bilateral hearing loss of a conduction type; the thorax was kyphotic; a hard, non-tender mass was palpated beneath the nipple of the left breast; neurological examination was negative.

Laboratory studies including complete blood count, urinalysis, blood urea nitrogen, serology, fasting blood sugar, cephalin flocculation, serum bilirubin and transaminase studies were

within normal limits. Roentgenograms of the chest and skull and an EKG were not significant.

A chronic brain syndrome secondary to arteriosclerosis was diagnosed. The breast mass was diagnosed as carcinoma and a simple mastectomy was performed. Pathological report indicated a scirrhous carcinoma of the breast. The patient made an uneventful surgical recovery. Her psychological disturbance was treated symptomatically with a combination of metrazol and nicotinic acid; thioridazine 25 mgm. q.i.d.; ferrous sulfate and chloral hydrate for night time sedation. She was maintained on this regime for 9 months at home, showed little restlessness, but progressive mental deterioration.

Periodic liver profiles and blood counts were normal. However, after 9 months the serum bilirubin was reported as 1.20 mgm. % and the transaminase was elevated. The thioridazine was promptly stopped. Within 2 weeks the liver studies reverted to normal. There was no clinical jaundice and the patient offered no complaints. The liver was neither enlarged nor tender.

DISCUSSION

A case of sub-clinical jaundice, presumed to be the result of thioridazine administration, is reported. The dosage was modest, but was given over a 9-month period. The length of administration rather than the size of the dose may be the important factor in producing the jaundice. Despite the relative safety of thioridazine, this case illustrates the possibility of jaundice developing with prolonged use of the drug and suggests the wisdom of periodic liver function tests as a precaution.

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² Sandoz Pharmaceuticals.

SCHIZOPHRENIA IN A PATIENT WITH GAUCHER'S DISEASE TREATED WITH MODIFIED ECT

JAMES F. SUESS, M.D.,¹ AND HARRY LITTLE, M.D.²

Several methods of modifying the anxiety and convulsive movements of ECT have been reported, including the use of succinylcholine chloride with sodium pentothal or the "petit mal technic" as described by Impastato, *et al.* (1-3). This report describes the use of succinylcholine modified ECT for a schizophrenic patient with Gaucher's disease in which pentothal was contraindicated because of liver involvement and "petit mal shock" was not used as it might precipitate a grand mal convulsion in a person with generalized bone pathology.

A 34-year-old man was admitted on July 21, 1960 with a 1-year history of syphilophobia, delusions of infecting his wife and children, burning sensation in his genitals, bizarre suicidal attempts, disordered body image and social withdrawal. An older sister had been afflicted with Gaucher's disease. About 2½ years prior to this admission, our patient developed hip pain and abdominal discomfort; bone marrow biopsy and splenectomy confirmed the diagnosis of Gaucher's disease. During the next year the patient developed osteomyelitis of the right femur and sustained a pathological fracture of the left hip. Following this he became economically dependent on his wife and the mental symptoms developed.

On admission the patient's liver was enlarged three fingerbreadths; generalized lymphadenopathy and pigmentation of the skin were noted; liver profile indicated some dysfunction; x-rays of the long bones revealed thinning of the cortex and rarefaction of the medullary portions. Both femurs showed evidences of the previous pathology.

The patient was treated with individual psychotherapy and tranquilizers until March 1961 without improvement; instead, he became more delusional and somewhat depressed.

On March 17, 1961 after test doses of 2 and 5 mg. succinylcholine ECT was begun with the following routine: atropine 0.6 mg. was given one half-hour beforehand; at treatment time 6-8 inhalations of a 95% oxygen and 5% CO₂ mixture were administered by BLB mask, followed immediately by 70 mg. succinylcholine chloride I.V. to obtain maximum relaxation. About 15 seconds later (after cir-

cumoral and eyelid fasciculations were noted) the patient was told to hold his breath. After an additional 25 seconds a standard electroshock treatment was given using the unidirectional Reiter machine. Following this an airway was inserted, intermittent pharyngeal suction was used if needed, and the O₂-CO₂ mixture administered using a rebreathing bag which could be rhythmically compressed by hand, if needed. An endotracheal tube was available for emergency use; however, the patient invariably regained spontaneous respiration within 1½-2½ minutes after injection without manual or machine resuscitation. During the series of treatments the patient rarely showed muscular response to ECT, and then only mild twitching of the lower legs. He never complained of anxiety related to ECT or the muscular and respiratory paralysis associated with succinylcholine. Apparently, he did not perceive any discomfort as we continually reassured him he could hold his breath for 25 seconds without difficulty.

After 22 such treatments, the patient showed marked improvement and in June 1961 was given leave from the hospital in an excellent condition.

CONCLUSION

This method can be used with ECT and succinylcholine chloride for maximum muscular relaxation when pentothal or "petit mal technic" to avert anxiety is contraindicated because of liver damage or fragile bony structure as in the present case of Gaucher's disease. The average person can hold his breath for 20-30 seconds without difficulty, especially if he has received several oxygen inhalations beforehand. Thus, he would not be aware of the temporary respiratory paralysis. Correct timing and the patient's confidence are most important in the breath holding routine described. We have tried it in several other less complicated cases with excellent results.

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EFFICACY OF ECT FOLLOWING PROLONGED USE OF PSYCHOTROPIC DRUGS¹

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With the exception of the Rauwolfia derivatives there seems to be no major contraindication to combine or interact the use of electroconvulsive treatment and the tranquilizing and/or antidepressant drugs. During the last two to three years the use of ECT has been stressed again, particularly in cases of failure or resistance to the psychotropic drugs.

I have noted that in many cases refractory to drugs but following a rather prolonged use of phenothiazine derivatives a series of ECT (usually 20 treatments) will obtain a striking unexpected improvement or remission of the active psychotic, mainly schizophrenic, process. This occurs in long term hospitalized as well as in recently admitted patients. It seems to be an interesting fact that the same patients often did not respond to ECT when given prior to the psychotropic drugs. I have observed that particularly delusions of paranoid nature and auditory hallucinations will respond to this "secondary" ECT. I am unaware of the publication of similar observations. From a survey of over 50 cases the following presentations may be significant.

Case 1. A 38-year-old, college educated, divorced male was hospitalized in March 1961 with a severe schizophrenic reaction manifested by auditory hallucinations and delusions of wealth, grandeur and persecution. He had been diagnosed a severe anxiety reaction since 1942 while in military service; he has never shown any psychotic symptoms until admission here. He presented a fixed delusional system centered about his capacity to receive messages from "Novea" (a once existing medieval Catholic temple order), which he believed to be located in the center of the universe, transmitting to him special

signals about world events which enabled him to make business investments and get rich. He thought he earned, thereby, trillions of dollars which he was cheated out of by the F.B.I. and Internal Revenue because he had loaned many trillions to the United States and never got the money back. Intensive drug treatment with high doses of several phenothiazines (thioridazine, trifluoperazine, perphenazine, etc.) combined with imipramine was given over seven months. Numerous intermittent psychotherapeutic interviews with intravenous methylphenidate directed the patient to suppress his delusions and hallucinations but were unsuccessful. While his behavior, mood and affect greatly improved and he had become coherent, relevant and oriented in all spheres he still insisted that he was hearing the voices giving him the messages from "Novea." He finally was placed on EST and following the completion of 20 treatments stated that the messages has ceased and he now felt completely free from the dominance of what he was able to realize, under the drug treatment, to be an imagination. He was continued on a maintenance low dose of phenothiazine and was discharged from the hospital three months later.

Case 2. A 40-year-old single male was admitted in March 1959 with a history of several years of psychotic thinking. He had some hospital treatment before with ECT, described as unsuccessful. He had lived alone, drinking to excess periodically, was described as asocial, seclusive and withdrawn. He was committed after he had threatened to kill all his relatives because he thought they were plotting against him and connived with many communist agents who followed him and threatened his life. He was placed on intensive treatment with high doses of several tranquilizers. He was negativistic, uncooperative and belligerent. After six months of drug therapy he was given a series of 20 ECTs which enabled him to repress the ideas of persecution and reference and made him amenable to psychotherapy, becoming cooperative and friendly and finally making his release possible. He has been out of the hospital for over two years and has adjusted well, not needing any continuation of therapy.

¹ The statements and conclusions published by the author are the result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

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HISTORICAL NOTES

HYSTERICAL APHONIA

MURRAY S. WILSON, M.D.¹

Thomas Bowdler (1754-1824) was a physician who devoted a lot of time to removing all allusion to sex from the English language. Not only did he expurgate the plays of Shakespeare, Gibbon's treatise on the Roman Empire, and a section of the Bible, but he also was active in the Proclamation Society that initiated our legacy of censure and censorship of "obscenity." In view of this the hysterical aphonia of his sister Jane (1743-84) is noteworthy.

There were 4 children who survived to maturity, only one of whom ever married, John the oldest. Their background was that of the comfortable English middle-class gentry. When their father married he retired from his London banking business to the life of a country gentleman. He considered the city sinful. His wish for himself was to have been a preacher. Their mother, schooled in French, Latin, philosophy, mathematics, and Hebrew, wrote fanciful religious nonsense, some of which she forced Jane to memorize.

When Jane was 16 she was badly disfigured by smallpox, and at 28 a severe case of measles left her dispirited and unwell. Shortly afterward she was, in the words of her nephew biographer, "much shaken" by attendance at a trial where she gave evidence. She recorded her impressions of the trial in prose and verse.

"A post-boy was apprehended on suspicion of stealing a bank note from a letter, which the author at the request of a friend, had conveyed to the post-office. The circumstances obliged her to appear as an evidence against the unfortunate young man, where she was a witness to the distress of his aged parents, who were waiting at the door of the hall to learn the event of a trial which was to decide the life of an only son. (The offense was capital.) The innocence of his intention appearing very evident, the youth was acquitted."

In the poem the mother tells her husband of a dream.

"Me thought I saw the fatal cord,
I saw him dragged along—

I saw him seized—"She could no more
For anguish stopped her tongue.

But now the voice of joy and woe
To her alike was vain;
Her thoughts still dwelled on Gemmy's fate,
Her lips on Gemmy's name.

Suddenly she stopped—for now in view
The crowded hall appear'd—
Chill horror seiz'd her stiffen'd frame
Her voice no more was heard.

After the trial the mother got her voice back but Jane, again according to her nephew biographer, "was deprived of the power of speech." Thereafter she communicated with her family on the black surface of her slate. In her terminal illness, her sister Harriet noted, "... she grew delirious. Think what we must feel when in that state her voice which had been lost for ten years, returned so that I could distinguish some words and many sentences but almost all wild and incoherent, except once I distinguished my own name, and another time I heard her say 'happy, happy.'"

Her family praised her spirit in her suffering, as, actually, she did herself in the writings posthumously published under the title, *Poems and Essays by a Lady Lately Deceased*. Among the essays are: The Duty and Advantage of Sickness, On Fortitude, On Resignation. In the essay on happiness she wrote,

"Conversation, instead of turning on such subjects as might afford improvement, . . . is often engrossed by the most trifling subjects, so that it is merely an idle dissipation of time . . . Ill nature shelters itself under the mask of wit . . . Vanity flatters the weakness of others in the hope . . . of being flattered in return." Happiness is possible in solitary thought, study, and writing. Throughout the tone is self-righteous and gloomy.

Her recovery of her voice in delirium identifies this as a conversion phenomenon. It was also the compromise of a woman for whom all words had potential danger, not just those of sexual tinge with which her brother, in a fine obsessional compromise, preoccupied himself in his later years.

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TORONTO MEETING HIGHLIGHTS

Forty-five hundred members and guests registered for the 118th annual meeting of The American Psychiatric Association at the Royal York Hotel in Toronto, Canada, May 7-11, 1962. Since its founding in 1844, the Association has met in Toronto three times previously, in 1871, 1881 and 1931.

President Walter E. Barton called the meeting to order at 9:00 a.m., Monday, May 7. The Invocation was given by The Reverend A.B.B. Moore, President and Vice-Chancellor of Victoria College, Toronto, followed by Greetings from The Honorable J. Keiller MacKay, Lieutenant-Governor of Ontario; The Honorable M. B. Dymond, Minister of Health for Ontario; and His Worship, Mayor Nathan Phillips of Toronto.

Prize awards were announced as follows: Dr. Karl A. Menninger was given the Isaac Ray Award for his outstanding contributions to improving understanding between the professions of psychiatry and the law. Throughout his professional career, Dr. Menninger, as protagonist for the application of a scientific methodology to the treatment of offenders, has exerted substantial impact on psychiatric and legal thinking. The Award is named in memory of Dr. Isaac Ray, APA Founder and author of a "Treatise on the Medical Jurisprudence of Insanity" (1838), a work which is still quoted with authority.

The Hoffheimer Prize for Research was shared by two research psychologists: Ogden R. Lindsley, Ph.D., Director of Harvard's Behavior Research Laboratory at Metropolitan State Hospital, Waltham, Mass., for his study of chronic psychotic behavior using free operant conditioning methods; and to Joseph D. Matarazzo, Chairman of the Dept. of Medical Psychology at the University of Oregon School of Medicine, for his study on the influence of the interviewer on the speech behavior of interviewees. Both recipients are under 40 as required by the terms of the Award which was established in 1947 in memory of Lester N. Hoffheimer of New York City

who lost his life in action in World War II. This is the first time the award has been divided between two persons working independently.

The George N. Raines Award for a doctoral thesis on a biological subject related to mental disorders was given to Marcus M. Jensen, Ph.D., University of California, Los Angeles, for his work on "Sound Stress and Susceptibility to Vesicular Stomatitis Viries."

The 1961 Mental Hospital Achievement Awards were announced as follows: Greater Kansas City Mental Health Foundation (Gold Award); Illinois State Psychiatric Institute (Silver Award); and Psychiatric Research Institute, London, Ontario (Bronze Award).

The opening session also heard the Report of the Medical Director who emphasized the function of his office as the administrative arm for the Officers, Councilors, Committees, District Branches, and as a service agency for the members at large.

The Speaker of the Assembly of District Branches, Dr. Edward G. Billings, reported that there were now 56 Branches with a membership totalling over 7000. He noted that 28 Branches are already processing applications for membership in the Association, and that 30 of them publish their own newsletters. Dr. Billings made it clear that in less than a decade the District Branch movement had matured to the point that the Branches were exercising active leadership in behalf of better mental health for the nation, a leadership which would inevitably grow stronger from year to year. He especially stressed the great contribution that the Branches could make to the orientation of state and local medical societies in the needs and problems of our field.

Dr. Aldwyn B. Stokes, Chairman, reported for the Committee on Arrangements. It must be noted that the annual meeting arrangements this year, including the Ladies Program planned by Mrs. K. G. Gray and her special committee, were not

only exceptionally well organized, but characterized by a quality of cordiality and hospitality on the part of Toronto colleagues and their families that made this meeting as enjoyable as any in the Association's history. Literally hundreds of U. S. members were entertained in the homes of Toronto psychiatrists. All who attended will express their profound appreciation.

A new precedent was established this year by way of memorializing deceased members. Their names were inscribed by an artist on a parchment scroll which was placed in the main meeting room throughout the week on a handsome lectern constructed with great skill and care by craftsmen at the Ontario Hospital, Penetanguishene, Canada. The scroll will be filed in a bound volume from year to year and deposited permanently in APA's Historical Library at the Central Office in Washington.

The Chairman of the Program Committee, Dr. John Donnelly, in his report noted that of 406 papers submitted for presentation this year, only 110 could appear on the program, in accordance with the policy of the committee that the number of presentations should be sufficiently limited to allow adequate time for delivery and discussion.

The Secretary and the Treasurer also gave their official reports at the opening session, summaries of which will be published in another issue of the Journal.

It was announced that District Branches had approved 196 applications for membership in the Association, and the election of 487 others was approved at this meeting, as were 219 new Fellows, 265 transfers from Associate to Full Membership, and three Corresponding Fellows. This brings APA membership to approximately 13,000. Judge David L. Bazelon, Ralph C. Busser, and Sir Aubrey Lewis were made Honorary Fellows.

The above reports were followed by a distinguished Presidential Address by Dr. Barton, published in full in this Journal. The Address made these salient points, among others: 1. *Action for Mental Health*, the Final Report of the Joint Commission on Mental Illness and Health, offers psychiatry the greatest opportunity it will have in this decade to advance training, treat-

ment and research. 2. The Association should more readily express itself on social issues of great relevance to the future of medicine and psychiatry. 3. Canadian members should, if they wish, make clear their primary allegiance to the Canadian Psychiatric Association. This would in no wise jeopardize useful liaison relationships between the APA and other independent national psychiatric organizations, not only in Canada, but in other countries. 4. Psychiatry must continue to move closer to the main stream of medicine. Second-class medicine in public mental hospitals can no longer be condoned for any cause. 5. In the coming decade the problems of the aging will compel our special attention.

The opening session closed with a Response to the Presidential Address by the President-Elect, Dr. C. H. Hardin Branch and a Benediction by The Reverend L. K. Shook, Professor of English at St. Michael's College in Toronto.

A second business session was held on Tuesday afternoon, May 8, at which the Chairman of the Board of Tellers announced the election of new officers as follows: President-Elect, Dr. Jack R. Ewalt; Vice-Presidents, Drs. Alfred Paul Bay and John R. Saunders; Secretary, Dr. Harvey J. Tompkins; Treasurer, Dr. Addison M. Duval; and Councilors (for three-year terms), Drs. John Donnelly, Othilda Krug, and Lauren H. Smith. The retiring President, Dr. Walter E. Barton, will also serve for three years on the Council. Dr. Lee Sewall, Chairman of the Committee on Constitution and By-Laws, presented the Proposed Amendments to the Constitution and By-Laws of the Association, copies of which had been distributed to the membership and which will be voted on by mail ballot in the coming year. The Secretary gave his report of Actions of Council over the preceding year for approval by the membership.

The Convocation for the newly elected Fellows was held on Tuesday, May 8, in Convocation Hall at the University of Toronto. One of the great organizers of the British Commonwealth, Dr. Healey Willan, provided the music for the occasion. Dr. H. Northrop Frye, Principal of Victoria College at the University and one of

Canada's leading literary critics, delivered the Fellowship Lecture on "The Imaginative and the Imaginary"—a charming discourse in which he elaborated on the nature of imaginative creativity in literature and distinguished it from the "imaginary" of the disordered mind. Following the formal Convocation, a reception for the new Fellows was held in the Great Hall of Hart House on the University campus. Never before had the Convocation been held in such an appropriate academic setting and the hope was widely expressed that the precedent might be followed from year to year.

A third business session was held on Wednesday morning, May 9, at which time reports of the three Coordinating Committee Chairmen, Drs. Dana L. Farnsworth, Howard P. Rome, and Paul V. Lemkau, were received. These reports highlighted major committee concerns and activities over the past year revealing once again the fundamental role of the Committees in inaugurating, supporting, and guiding the Association's major programs and services.

The annual Wednesday evening banquet was a most festive occasion devoid of formalities except for the presentation of the Past President's Badge to Dr. Barton by Dr. Winfred Overholser followed by the presentation of a handsome editorial chair to Dr. Clarence B. Farrar as a symbol of regard and appreciation for his dedicated editorship of *The American Journal of Psychiatry* since 1931. Quite as moving was Dr. Farrar's response to the tribute. The dinner was followed by dancing until 2:00 a.m.

The final business session on Friday

morning witnessed the introduction of the incoming President, Dr. C. H. Hardin Branch, the presentation of certificates to retiring officers, and the Secretary's report of actions of Council which had met the day before. Dr. Robert S. Garber was announced as the new Speaker-Elect and Dr. Hamilton Ford as the new Recorder of the District Branch Assembly.

Other features of the Toronto meeting worthy of special mention were these: A "Question the Expert" session was introduced for the first time in which program outstanding psychiatric leaders and scholars volunteered to subject themselves to random questions from an eager audience on such subjects as perspectives in psychiatry, heredity versus environment, basic issues in research, epidemiology, the future of mental hospitals, and others. Unquestionably, the innovation was very well received. Special mention should also be made of the splendid Adolf Meyer Research Lecture given by Dr. Tigani el Mahi of Alexandria, Egypt, on "The Evolutionary Concept of Mental Health, Its Entity and Identity."

It was generally agreed that press coverage of the meeting was exceptionally good with approximately 50 science writers and reporters in attendance.

For these reasons it was with a special enthusiasm that the 118th annual meeting went on record in praise and commendation for the work of the Arrangements Committee under the Co-Chairmen, Drs. Stokes, Griffin, and McNeel, and the Program Committee chaired by Dr. Donnelly.

Harvey J. Tompkins, M.D.,
Secretary.

WANT-NEED

Faites du bien aux pauvres . . . Oui, mais aux vrai pauvres, aux pauvres d'esprit, et non pas en leur octroyant la faveur qu'ils vous demandent, mais celle dont ils ont besoin.

—MIGUEL DE UNAMUNO

CORRESPONDENCE

COMMUNICATION AMONGST AUTOMATA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : He who negates the existence of "negation" clearly puts himself into a paradoxical situation, and even printers of a journal of psychiatry shouldn't get away with this. In my recent article, "Communication amongst Automata" (118 : 865, 1962), they denied me the privilege to negate a proposition "x" which is usually denoted by placing a horizontal bar "-" over the proposition "x", indicating "non-x" or "it is untrue that x is the case." Hence, all the logical equations in the left column of page 867 must appear as puzzling chicken-tracks unless they are corrected to read :

$$\begin{aligned} & x \ \& \ (y \vee \bar{y}) \\ & y \ \& \ (x \vee \bar{x}) \end{aligned}$$

including the corrected truth-table :

x	y	P	B
		$x \ \& \ (y \vee \bar{y})$	$y \ \& \ (x \vee \bar{x})$
0	0	0	0
0	1	0	1
1	0	1	0
1	1	1	1

However, it is heartening to see that we still live in a world where errors are made and where they can be corrected and forgiven. We will be denied these pleasures when the Automaton takes over.

Heinz Von Foerster,
University of Illinois,
Urbana, Illinois.

PHENMETRAZINE HCL ADDICTION

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In my article "Addiction to Phenmetrazine HCl" in Am. J. Psychiatry, 118 : 6, it has been pointed out by Prof. M. Bleuler of the Zürich Psychiatrische Universitätsklinik, Dr. I. Pierce James of the Royal Perth Hospital, Australia, and Dr. Francis X. Trimble of Long Beach Hospital, California, that I omitted European references on addiction to this drug. Dr. J. A. Rosen of Philadelphia points out that the first American article on this subject was pub-

lished by him in the *Journal of the American Osteopathic Association* in 1959. My article should have stated that there were no previous articles on the subject in American medical publications and I wish so to amend it. The doctors have stressed the possibility of addiction and point out that my case is not a single isolated rarity as it would appear from my article.

Harry F. Darling, M.D.,
Kannan Building,
Lawrence, Mass.

RE : COMPAZINE SUPPOSITORIES

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In reference to the communication by Dr. James K. McDonald in your February issue concerning an attempted suicide with Compazine suppositories you might be interested in the following report.

A young woman was referred to my office by an ear-nose-throat specialist. She developed in the last 48 hours violent spasms of tonic-clonic type in form of an opisthotonus accompanied by protrusion of tongue and sensation of choking. The history revealed that she had turned to her family

physician for advice: being a religious Jewess she intended to fast on Atonement Day (Yom Kippur). However she used to have difficulties with fasting before because she developed nausea and even vomiting when fasting. The physician had the idea to prescribe 2 Compazine suppositories in 24 hours since religion did not permit her to swallow any medicines except in greatest emergency.

She was in a state of panic and mere reassurance was sufficient. She lost her symptom, as I heard, the next day. The fact that she was fasting might have increased the effect of the drug. In rectally applied drugs it is very difficult to state as the

manufacturer indicates that 25 mgm. corresponds to 15 mgm. orally since rectal absorption in man shows notoriously great variations.

The described spasms represent a form of "akathisia" an extra-pyramidal symptom well known as a side effect of phenothiazines.

If compazine is, according to the manufacturer, counter-indicated in states of depression of central nervous system activity it might be also counter-indicated in starvation.

Joseph Wilder, M.D.,
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• RE: EXPERIENCES WITH ELAVIL

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The interchange in "Correspondence" (Feb. 1962) in regard to the sleepiness produced by Elavil is of interest. It is rare indeed that a reader can find an opportunity to correlate both points of view.

Sleepiness is a "side effect" with Elavil in patients who are depressed and retarded, without agitation. Neurotic depressions frequently show this side effect. However, in the involutional psychotic this is most re-

warding. Here it is therapeutic and is not a "side effect." (Dorfman, W.: *Psychosomatics*, May-June 1960). As for its value in insomnia, recent experiences have indicated that where Tofranil is preferred in the daytime because of the sleepiness effect of Elavil, the addition of 50 mg. of Elavil at night will help break addiction to barbiturates. Unfortunately, Elavil cannot be combined with MAO drugs.

Wilfred Dorfman, M.D.,
Brooklyn, N. Y.

ACTION FOR MENTAL HEALTH

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The January *Newsletter* says that Council has been developing a "position statement" on the Final Report of the Joint Commission on Mental Illness and Health. May I add one, lone, small voice to help the Council in its deliberations?

First of all, as a practitioner of general psychiatry, I agree with much of the report, particularly that portion which says that we must approach the public realistically with the recognition that mental illnesses are "different" from other illnesses. I, too, have a deep appreciation of the historic significance of *Action For Mental Health*. One statement of the report, how-

ever, which appeared very early in the Commission's summary of the status of psychiatric treatment today, should not, in my opinion, go unchallenged.

This statement says, in effect, that many years ago fear was used in the treatment of the mentally ill and that the efficacy of electroshock treatment, as used today, is probably due to the fact that it induces fear in the patient.

This statement has a first cousin, or brother, which does something like this: "Shocktreatment works because the patient feels it is punishment and, in undergoing it, he expiates his guilt—or shocktreatment works because it is a symbolic death to the patient." Propositions like this, of course,

are facile, doctrinaire, off-the-top-of-the-head statements which are neither scientifically provable or disprovable. The statement that shocktreatment works because of the fear it induces fortunately is disprovable. Anyone who has administered ECT, using sodium pentothal or some other anesthetic for the treatment, and who has had as a result patients returning as outpatients to his office or clinic, time after time for treatment, knows from experience and his patients' cooperation that the element of fear has been abolished. To him, the statement about shocktreatment in *Action for Mental Health* is disproved.

As has been intimated, the majority of the report I can subscribe to wholeheartedly. The statement about shocktreatment,

however, is disquieting. Now that President Kennedy has announced that he is giving this report to Secretary Ribicoff and other members of the Federal Government to study, it seems to me important that a statement of a committee of eminent psychiatrists should not contain biased opinions. As one who has used ECT many, many times with the practical result of getting the patient back to efficient operation, I would like to register my protest that any official opinion by representatives of American psychiatry should dispense with such a useful therapeutic measure on purely doctrinaire grounds.

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Ridgway, Pa.

DIAGNOSTIC EVALUATION AND TREATMENT SHOULD BE WITHIN THE CONTEXT OF LIFE

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: A woman patient who was deeply upset by her husband's unfaithfulness came to see me, accompanied by her father. The husband did not deny having affairs but claimed that "he could not allow her jealousy to interfere with his leading a normal life." She had already seen several psychiatrists, some of whom wanted to institutionalise her. I thought her reaction not irrational, but tried to conciliate. When her father told me however, "Madame, I am a Parisian and know life, but when my son-in-law, after behaving as he did, quotes Freud and wants to lock up my daughter, this is too much." I was lost for a reply. I learned two years later that the patient had seen altogether twenty psychiatrists, eighteen of whom considered her "paranoid" with only myself and a Swiss psychiatrist dissenting. The latter said to her: "What you need is a lawyer, not a doctor." Today she is divorced.

When I interviewed an apathetic patient in a Federal Hospital, I succeeded in evoking a strong response by discussing the fact that she had a 10-year prison sentence hanging over her head. The Chief wrote me afterwards that "since this demonstra-

tion some of the residents believe now that reality factors should be discussed." I replied that I had not known that anybody ever thought otherwise, but learned since that unfortunately the distinction between endogenous and exogenous is often neglected.

A young girl who had treatment since the age of 12 came to see me in an acute anxiety condition. Her doctor had all along encouraged her to leave home at the age of 18, but when she did so in order to live with a homosexual friend, it proved a failure. Her therapist then broke off treatment saying that she must learn "to cope with her anxiety." I dwelt little on her emotions but high-lighted the fact that she was unable to earn her living, and that this caused, to quite a degree, her anxiety. After a few weeks she resentfully stopped treatment, but took a job which she has held ever since.

Not all painful emotions are abnormal and it is essential to assess and rectify their cause. After 3 years "supportive treatment" a social agency referred to me a girl of 15 who looked more like a prostitute of 50. She complained of her "sense of inferiority" and that she imagined people stared at her. I told her that this was actually the case,

and explained why she attracted attention and told her how she ought to dress. She took my criticism well and acted on it, and as a result looked better and felt better.

A boy of 19 who was referred to me as a "wild-eyed, deluded schizophrenic" believed he was the "greatest genius who ever lived." He had had several years of treatment and his last psychiatrist used to reassure him: "Do not doubt yourself," thus only strengthening his ideas of grandeur.

In contrast, I told him his quotations from Dostoevsky were wrong and pointed to other flaws in his knowledge. This brought him down to earth somewhat and enabled me to establish a relationship. Today he has completed his studies very successfully and is happily married.

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MELLARIL : EJACULATION DISORDERS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: Several correspondents to the *Journal* have recently reported their experiences with patients who have demonstrated disorder of ejaculation during the course of therapy with Mellaril. Perhaps this case report could be added to those which now seem to be rapidly accumulating.

The case in question is that of a 47-year-old married, white male, who was recently hospitalized for three weeks with an acute manic psychosis. In addition to four electroconvulsive treatments, he received 100 mg. of Mellaril q.i.d. He entered a rapid and adequate remission, returned home and resumed his occupation as well as his customary marital relations. At this point, he reported the typical Mellaril affect, namely,

an ability to achieve a full and complete erection without subsequent orgasm or ejaculation.

In view of the paucity of knowledge of the physiologic function of the male sexual apparatus, it would seem that this specific and peculiar affect of Mellaril deserves some investigative attention. One would wonder whether our colleagues in urology might not have further observations. One also wonders whether this is not a far more wide spread occurrence from this drug with its failure to be reported reflecting the characteristic reluctance of the male to discuss any alterations in his sexual potency.

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SPECIAL REPORTS

EXPANDING GOALS OF GENETICS IN PSYCHIATRY (1936-1961)

On October 27-28, 1961, a special symposium was held at the New York State Psychiatric Institute, marking the 25th anniversary of the Department of Medical Genetics. Under the auspices of the New York State Department of Mental Hygiene and the Department of Psychiatry, College of Physicians and Surgeons, Columbia University, the symposium also served as the sixth annual meeting of the Eastern Psychiatric Research Association. It was cosponsored by the Academy of Psychosomatic Medicine, the American Eugenics Society, the American Psychopathological Association, the American Society of Human Genetics and the Scottish Rite Committee on Research in Schizophrenia. The program chairman was Dr. Franz J. Kallmann, Chief of Psychiatric Research (Medical Genetics), New York State Psychiatric Institute and Professor of Psychiatry, Columbia University. The Sponsoring Committee consisted of 35 eminent persons in the fields of psychiatry, medical education, vocational rehabilitation, genetics and biology. The meetings were attended by over 250 guests from all parts of the country and abroad, and included 22 invited papers and discussion. An overflow audience saw and heard the proceedings by closed circuit television.

The opening session "Progress in Behavioral and Psychiatric Genetics" was called to order by Dr. Paul H. Hoch, Chairman. Vice-chairman was Dr. Lauretta Bender. Dr. John D. Rainer spoke on "Studies in the Genetics of Disordered Behavior, Methods and Objectives," emphasizing the various fields of interest involved in the study of human behavior in its genetic and biologic framework. Other speakers were: Dr. Lissy F. Jarvik: "Genetic Variations in Disease Resistance and Survival Potential," a twin research on tuberculosis and on senescence; Dr. Jerry Hirsch: "The Contribution of Behavior Genetics to the Study of Behavior." Finally, reports on two cur-

rent research projects at the Psychiatric Institute were presented, one on "Changing Mating and Fertility Patterns in Schizophrenia" by Drs. Loise Erlenmeyer-Kimling and Charles Goldfarb, the other on "Deafness and Schizophrenia" by Drs. Kenneth Z. Altshuler and M. Bruce Sarlin. The former represented a preliminary report on a study of a random sample of schizophrenic patients admitted in the years 1934-36 and 1954-56, indicating an increase in the overall fertility rate of schizophrenic patients during this 20-year period. The paper of Altshuler and Sarlin reported findings from a large scale psychiatric project for the deaf.

On the afternoon of the first day, "Progress in Basic Genetics" was presented by a distinguished panel of scientists under the chairmanship of Dr. H. Bentley Glass, Professor of Biology, Johns Hopkins University. Prof. M. J. Kopac (New York University), gave an illustrated talk on "Structure and Micromanipulation of Chromosomes." Dr. Malcolm A. Ferguson-Smith (University of Glasgow) presented an authoritative report on modern discoveries in cytogenetics as related to sexual development. Among the syndromes discussed were Klinefelter's Syndrome, Turner's Syndrome and various trisomy conditions. On the biochemical level, Dr. Carl C. Lindegren, Director, Biological Research Laboratory, Southern Illinois University, presented an unorthodox but thought-provoking discussion of the "Biological Function of Deoxyribonucleic Acid," with emphasis on cytoplasmic induction of gene function. Prof. K. C. Atwood (University of Illinois) reviewed with great clarity some very recent crucial experiments, illuminating the nature of the information-bearing and replicating functions of the genetic material. Finally, Dr. W. Eugene Knox, Visiting Professor of Biochemistry, American University, Beirut, Lebanon, spoke on "Biochemical Genetics and Human Metabolism," illustrating the

interaction between environment and gene action in the molecular-enzymatic sphere, and discussed sickle cell anemia, galactosemia and phenylketonuria.

The principal speaker at the Banquet Session on the evening of October 27, chaired by Dr. Lawrence C. Kolb, was Dr. J. A. Fraser Roberts, Director, Clinical Genetics Research Unit (Medical Research Council), London, whose topic was "Genetics in the Medical School Curriculum." His advice was to teach genetics to beginning medical students by means of didactic lectures, follow this by illustrative material in the clinical years and in particular allow psychiatric genetics to be taught by psychiatrists, versed in the particular terminological and diagnostic standards of their specialty. Other speakers at this evening session included Dr. Hoch, Dr. Merritt, Dean of the College of Physicians and Surgeons, Dr. William Malamud, representing the American Psychiatric Association, Dr. Edward Tatum, Nobel-laureate of the Rockefeller Institute, Dr. Glass and Dr. Sandor Rado, Dean of the New York School of Psychiatry.

Dr. Impastato, secretary-treasurer of the Eastern Psychiatric Research Association, presented Dr. Kallmann with the handsome gold medal awarded by the Association for extraordinary contribution to psychiatry.

Saturday morning's session, under the chairmanship of Dr. Charles Buckman, and Dr. Impastato, dealt with "Progress in Clinical Genetics." Drs. Arthur Falek and Edward V. Glanville spoke on "Investigation of Genetic Carriers," concentrating on psychiatric and neurological conditions, including Huntington's chorea. Preliminary data on the use of an electronic tremor recording device in the early detection of this disease were presented. Dr. W. Edwards Deming spoke on "Methods of Sampling Design in Psychiatric Genetic Studies," and Dr. Walter F. Haberlandt of the Psychiatric University Clinic, Düsseldorf, reviewed

"Progress in Neurological Genetics." Dr. George A. Jervis (Letchworth Village) discussed genetic aspects of undifferentiated retardation, and phenylketonuria. Dr. Gordon Allen (National Institute of Mental Health) presented "Twin Data on Mental Deficiency." Diane Sank and Dr. Jane Weiss discussed "Genetic and Adjustive Aspects of Total Deafness," referring to the psychological and genetic data obtained from general population and twin surveys.

The final session on October 28 (Chairman, Dr. Malamud) dealt with "Functions of a Medical Genetics Department in the Mental Health Field."

Dr. Eliot Slater, Director, Medical Research Council, Psychiatric Genetics Unit, London, reported on "Trends in Psychiatric Genetics in England," with reference to both cytological and clinical studies; Dr. Erik Strömberg, Professor of Psychiatry, Aarhus University, spoke on current research in Denmark and other Scandinavian countries; Dr. Lewis Hurst, Professor of Psychological Medicine, University of the Witwatersrand, Johannesburg, described the organization of genetic research in South Africa. Dr. C. Nash Herndon (The Bowman Gray School of Medicine, Winston-Salem), spoke on "Medical Genetics in the United States." He emphasized the pioneer role of Dr. Franz Kallmann in this field. Dr. Kallmann, the final speaker, discussed "Genetic Research and Counseling in the Mental Health Field." The keynote of Dr. Kallmann's address was the importance of making available well-informed, non-traumatic genetic counseling.

The meeting ended with the presentation of the R. Thornton Wilson Awards in Genetic and Preventive Psychiatry. The prize for the best paper in the clinical area went to Drs. Altshuler and Sarlin; in the basic sciences to Dr. Ferguson-Smith. Dr. Malamud closed this most successful meeting at 6:00 p.m. on October 28.

JOHN D. RAINER, M.D.

REPORT ON THE 10th ANNUAL CONFERENCE OF THE AMERICAN SOCIETY OF ADLERIAN PSYCHOLOGY

After his break with Freud, in 1911, Alfred Adler developed his own school of *Individual Psychology*. The American Society of Adlerian Psychology, therefore, celebrated 50 years of Adlerian Psychology at its 10th annual meeting, in New York City, November 3-5, 1961.

The papers given clustered around the following topics: the historical development of Individual Psychology, presented by Alexandra Adler (N. Y.), A. Farau (N. Y.), and a delightful series of vignettes of Adler's warm, perceptive, and energetic personality given by his co-workers and friends in recollections of their personal experiences.

The impact of the actual political situation on all our thinking showed in papers on "The Meaning of Panic" (R. Dreikurs, Chicago), and on "The Atomic Threat—A Challenge to Individual Psychology" (L. Sicher, Los Angeles). These presentations were followed by an earnest discussion on what psychotherapists could contribute to the prevention of war.

The next topic centered around child therapy and guidance, introduced by an original short sound film, showing Alfred Adler talking on "Problem Children." E. Papanek (N. Y.) spoke on "Adlerian Concepts in Child Development"; D. Deutsch (N. Y.) led a panel discussion on "Child Guidance: Retrospect and Prospect"; M. Sonstegard (Cedar Falls, Iowa) and E. Thoma (N. Y.) dealt with the problem of "Underachieving School Children."

Papers dealing with psychotherapeutic theory and practice were presented by the president of the Society, B. Shulman (Chicago), on "The Difference Between the Schizophrenic and Manic-depressive Psychoses," by G. Fenchel (N. Y.) on "The

Concept of Purpose in Psychotherapy," by A. Kadis (N. Y.) and N. Freedman (N. Y.) on "Changes in Early Childhood Recollections During Therapy," by H. Papanek (N. Y.) on "Overt Expression of Hostile Feelings in the Therapy Group," and by I. Neufeld (N. Y.) on "Phenomenological Approach to Psychosomatic Processes."

The field of mental hygiene and social psychology was represented by H. Ansbacher (Burlington, Vt.) dealing with "Mental Hygiene Value of an Academic Course in Individual Psychology," by J. Meiers (N. Y.) on "The Mental Hygiene System in the U. S. A.," by L. Rattner (N. Y.) speaking on "The Concept of Power in Individual Psychology," and by N. Ionedes (Wash., D. C.) on "Adlerian Principles in the Treatment of Offenders."

J. B. Rotter (Columbus, Ohio) was guest speaker at the dinner. His talk on "Analysis of Adlerian Psychology from the Viewpoint of Research" was extremely stimulating and provoked an interesting discussion on the verifiability of any personality theory with special emphasis on the possibility of research concerning Adlerian basic assumptions, e.g., the importance of inferiority feeling, of compensation and over-compensation, and of social feeling in the development of the child.

The conference ended with a panel discussion on "Outlook and Challenge," in which, under the chairmanship of Alexandra Adler (N. Y.), the new generation of Individual Psychologists discussed plans for the future of their fields of interest: training and research, theory of personality, techniques of psychotherapy, and the growing importance of social psychiatry.

Helene Papanek, M.D.

NEWS AND NOTES

NIH RESEARCH CAREER AWARD PROGRAM.—\$291,796 in grants have been awarded to sixteen persons by the NIMH, Bethesda, Md., under the new NIH Research Award Program. This program is to strengthen research on the problems of mental health and mental illness by providing career support to highly qualified persons. Two types of awards are available, the Research Career Development Awards and the Research Career Awards.*

THE PHILOSOPHY OF PSYCHIATRY.—The University of Cincinnati has announced the establishment of a course of doctoral study "in the philosophical implications and moral presuppositions of psychiatry." This study will involve a "direct experimental approach to problems common to psychiatry and philosophy."

The new program is the outgrowth of many years of close cooperation between philosophy and psychiatry at the University of Cincinnati carried on under the direction of Dr. Campbell Crockett, Dean of the Graduate School, and Dr. Maurice Levine, Head of the College's Dept. of Psychiatry.

DR. MYERS TO SUCCEED DR. LAUREN H. SMITH AT PENNSYLVANIA HOSPITAL.—On retirement of Dr. Lauren Smith, the present physician-in-chief of the Institute of Pennsylvania Hospital, July 1, 1962 to become full time consultant for development to the Institute, J. Marvin Myers, Jr., M.D., will become medical director of the Institute.

Dr. Myers is a graduate in medicine from the Johns Hopkins School of Medicine (1943) and has had five years' residency training at the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital. He has been on the Pennsylvania Hospital staff since 1951.

ILLINOIS PSYCHIATRIC SOCIETY.—On May 16, 1962 the following members were elected to office for the year 1962-63: President, Dr. Lester H. Rudy; President-Elect,

Dr. Arthur A. Miller; Secretary-Treasurer, Dr. Donald Oken; Delegates to American Psychiatric Association Assembly, Dr. John Adams, Dr. Jewett Goldsmith (Alternate); Councilors, Dr. Melvin Sabshin, Dr. Harold M. Visotsky, Dr. Thomas T. Turlentes, Dr. Rudolph G. Novick.

DR. RICHARD CAMERON TO HEAD THE NEWBERRY (MICHIGAN) STATE HOSPITAL.—Dr. Richard R. Cameron has been appointed Medical Superintendent of Newberry State Hospital to succeed Dr. T. W. Thompson on the retirement of the latter. The appointment is effective June 16, 1962.

Dr. Cameron is a graduate of the Jefferson Medical College of Philadelphia and is Board-certified in both psychiatry and neurology. From 1938 to 1958 he was in the military service, occupying various medical, psychiatric and administrative posts. He has been attached to the central office of the Michigan Dept. of Mental Health where he has had mainly to do with hospitalization problems.

SECOND INTERNATIONAL CONFERENCE ON "BIOLOGICAL TREATMENT OF MENTAL ILLNESS."—Attention is again called to this important International Conference to be held Oct. 31 to Nov. 3, 1962, at the New York Academy of Medicine. Sub-topics of the Conference are: 1. Theory and Physiology; 2. Specific Plasma Protein Factors in Relation to Schizophrenia; 3. Mental Health Conditions and Psychiatric Treatment in Ceylon, Thailand, Formosa, and Africa; 4. Psychopharmacology; 5. Endocrinology; 6. Various Shock Treatments. Scientists from every continent will participate.

Dr. D. Ewen Cameron, Chairman of the Dept. of Psychiatry of McGill University, will be the Honorary President.

Physicians, psychiatrists, psychologists, social workers, and anyone interested in the field of mental health are invited. For more detailed information, write to the Chairmen of the Conference: 1. Max Rinkel, M.D., Massachusetts Mental Health Center, 74

Fenwood Road, Boston 15, Mass. (Office Address : 479 Commonwealth Avenue, Boston 15, Mass.) ; 2. Harold E. Himwich, M.D., Galesburg State Research Hospital, Galesburg, Ill.

THE PRESIDENT'S COMMITTEE ON JUVENILE DELINQUENCY AND CRIME.—On May 31, 1962, the President, on the basis of a report of the year's activities of the President's Committee on Juvenile Delinquency and Youth Crime, announced a Federal grant to Mobilization For Youth, Inc., on the Lower East Side of New York City, the first demonstration *action* grant made under the Juvenile Delinquency and Youth Offenses Control Act of 1961.

Six other cities have received grants under the Act for planning demonstration projects : New Haven, Houston, Cleveland, Philadelphia, Los Angeles and Minneapolis. Each city has set up an organization to develop a comprehensive program involving public and private agencies dealing with youth. These broad new attacks on delinquency will give a great opportunity to qualified personnel to aid in establishing community-wide youth development programs.

Many other cities throughout the country have shown an interest in establishing an overall youth development program ; they also need the help of experienced personnel.

The Committee has also announced a training grant for a two-week summer work conference on the education of disturbed and delinquent children. The conference will be held at the Hawthorne Cedar Knolls School, in Hawthorne, N. Y., from July 9 through July 20, 1962.

This Work Conference is co-sponsored by Union Free School District #3 (Mt. Pleasant, New York) and Columbia University. Registrants are eligible to receive two

points of graduate credit for participation in the two-week training program. Twenty-five educators will be enrolled.

Applications must be filed by June 15. For further information, write : Dept. of Special Education, Teachers College, Columbia University, New York 27, N.Y.

NEW YORK STATE PSYCHIATRIC INSTITUTE.—Professor Howard Hunt joined the staff of the N. Y. State Psychiatric Institute on July 1, 1962 as Chief of Psychiatric Research (Psychology). In addition to this position he will be appointed Professor of Psychology at Columbia University. Professor Hunt has resigned as Professor and Chairman of the Department of Psychology at the University of Chicago.

MENTAL ILLNESS: A GUIDE FOR THE FAMILY.—A new fourth edition of this 95-page book by Edith M. Stern has recently been issued by the National Association for Mental Health. First published in 1942, more than 300,000 copies of the Guide have been distributed. The purpose of the book is "to combat common fallacies about mental illness" and is "addressed specifically, personally and directly to the troubled, unhappy relatives of the mentally ill."

Copies (price 50¢) may be obtained from the National Association for Mental Health, 10 Columbus Circle, New York 19, N. Y.

CORRECTION.—Soll Goodman, M.D., secretary to the Board of the American Orthopsychiatric Association calls our attention to the fact that an error appeared in our columns of March 1962. Edward D. Greenwood, M.D., now President of the Association, should have been listed as President-Elect rather than George E. Gardner, M.D.

BOOK REVIEWS

NARRATIVE OF A CHILD ANALYSIS. By Melanie Klein. (New York: Basic Books, 1961, pp. 496. \$10.00.)

In *Narrative of a Child Analysis* Melanie Klein presents her theories in their final, authoritative form. She describes in detail 93 psychoanalytic sessions with a ten-year-old boy extending over about 4 months. Her comments about theory and technique are placed at the end of each session. There are 73 illustrations of the boy's pencil and crayon drawings, some in color. Unfortunately Melanie Klein did not live to see the publication of this, her most comprehensive work.

This book is well written and of great historic importance for child psychiatry. It is unique because here we have for the first time a detailed day-to-day description of a complete, even though not completed, psychoanalysis of a child.

Mrs. Klein states that she selected the case of Richard as an example to demonstrate her technique because "the unusual cooperativeness of the child enabled me to penetrate to great depth," in spite of the fact that the analysis had to be limited to 4 months from the beginning. Richard suffered from what we would call "school phobia." He had been too fearful to attend school since the outbreak of the war in 1939 when he was 8 years old. It is characteristic for Melanie Klein's theoretical and practical approach that she finds the fact that the onset of this very severe symptom coincided with the outbreak of the war of no importance. She states that the war only "increased his anxieties." Actually the appearance of such a severe symptom is never only a change in quantity but one in quality. Richard was afraid of other children, avoided going out by himself, suffered from hypochondriasis and depressions.

The analysis was carried out in a village in England in the spring and summer of 1941 at the time of the Blitz and when Hitler attacked the Soviet Union. Richard "followed the news closely and took great interest in the changes in the war situation." Melanie Klein refers to the "frightening external circumstances" under which both she and the child had to live. The analysis, however, concerns itself entirely with "anxiety concerning internal processes" because "fears of external dangers are intensified by anxieties arising in the earliest stages" (of infantile development)

and "therefore the anxiety aroused by actual dangers can be diminished by analysis." In this way Melanie Klein re-emphasizes the basic position she shares with many other psychoanalysts, namely "that the unconscious is at the root of all mental processes, determines the whole of mental life." (The Psychoanalytic Study of the Child, Vol. VII, 1952.) This means giving the unconscious priority and power over all other aspects of man's life. It means separating it from physical, intellectual, social and economic forces as though it were a self-contained unit, when actually all these forces influence each other crucially in what Wertham calls "dynamic interaction."

Melanie Klein had her own psychoanalytic school in England. She differed considerably from Anna Freud, Edward Glover and Ernest Jones, all of whom practiced in London during the same period. She was a pupil of Karl Abraham in Berlin and was much influenced by his theories of oral, anal and genital stages of the libido. Freud did not accept all her theories which, even though they concur with most of his basic ideas, go much further in the role they ascribe to the unconscious, and especially in their stress of early infancy, before speech has developed, as the crucial time of life, because this is when the earliest stages of the Oedipus complex are supposed to take place. It sometimes seems as though Klein had carried psychoanalysis *ad absurdum*.

Klein's psychoanalytic procedure consists "in selecting the most urgent aspects of the material and interpreting them with precision." Interpretations dominate the sessions from the first one on. This is true even when one allows for abbreviations of descriptions of the sessions which are necessary in writing such a book. One does not get the impression that the patient ever has a chance really to tell his story or his side of the story. He is immediately overwhelmed with forceful interpretations. Many of them must have been experienced by him as accusations, and all of them were strong suggestions against which a child is defenseless, especially such a young child suffering from hypochondriasis.

No diagnosis is made. Melanie Klein does not seem to distinguish between neurosis and schizophrenia in any case, for "psychotic" and "persecutory" anxiety is supposed to be present in all cases. In the 27th session Richard expresses the fear of being poisoned; only then did he feel free to mention this. Emphasis on

examination instead of interpretations should have revealed such an important symptom in the beginning. Even then the symptom is not analyzed but immediately interpreted. He is told that he distrusts "his parents because he wished to blow them up with his 'big job' as well as to poison them with his urine, both of which were felt to be poisonous when he hated his parents. Therefore he expected them to do the same to him." The therapist does not bother to find out whether this was an occasional fear, a vague suspicion or a true delusion. We are not told whether this symptom disappeared.

Some of the drawings might make one think that this was a case of schizophrenia. However, the child's productions are so severely distorted by interpretations, that it is impossible to evaluate them. During session 17 the child draws a starfish inside a circle. Here is Melanie Klein's interpretation: "The big starfish also seemed to represent Daddy's devoured genital which made her (mother) bleed because it ate her inside; this was shown by the red border round the starfish. The starfish also stood for the greedy and frustrated baby—himself—injuring and eating Mummy's inside when he wanted her and she did not come." It is not surprising that the drawings following this one appear more and more abnormal.

I feel that one is justified in saying that the enormous emphasis on sexual interpretations must lead to sexual overstimulation of the child and amounts to a seduction. Richard came from a British upper-class home, and sex was not something natural and familiar to him. The author states that she had to "introduce in the course of the analysis certain terms which were unknown to him, such as 'genital,' 'potent,' 'sexual relations,' or 'sexual intercourse.'" She does not say whether she ever explained the anatomic facts to him about which so many children are confused. This in itself can cause anxiety and hypochondriasis. She assumes that he has an "unconscious knowledge of the differences between the sexes" when he complains as late as the 78th session that he does not know what a woman's genital looks like. In the 65th and 83rd sessions he makes a drawing of Melanie Klein and gives her a penis. One does not know whether this is due to lack of knowledge of the anatomy, whether it is in response to her suggestions or whether it really is, as she maintains, an expression of his unconscious.

The patient is told in the very first session when he talks about Hitler, that he does not really mean Hitler but "that Hitler was in a

way ill-treating his own people (the Austrians), including Mrs. K., just as the bad Daddy would ill-treat Mummy." When in the 5th session he shows anxiety and walks around the room, he is given the following interpretation: "This exploring the room stood for the wish to explore her (Mrs. K.'s) inside—due to his anxiety to find out whether there was a Hitler penis in it or a good one." In the same session he looked at a post card with a robin on it. This leads to the interpretation "that the robin stood for the good penis, also for a baby, and that he wished to make babies and to replace Mr. K. and Daddy." The child's world is sexualized, and what he sees and does consists of symbols standing for sexual fantasies, some of them so abnormal that they are only observed in psychotic patients.

The so-called transference relationship, in this case the relationship of a child to an adult, created by this approach is revealed in this scene from the 77th session: "He asked what would he do with Mrs. K. if he were in bed with her? Mrs. K. suggested that he should say what he thought he would do. Richard (shyly) said that he would put his arms around her, he would cuddle her and get quite close to her. After a pause, he said he did not think he would wish to do anything with his genital with her. From the expression on his face it was obvious that this thought was predominantly unpleasant and frightening to him." It seems to me that we as therapists should stand by the basic principle: *nil nocere*. No adult should under any conditions ever permit his relationship with a child to develop in a way which so obviously is dangerous for the child's mental health.

There is in this as in Klein's other books no convincing scientific evidence for her theories. Nevertheless, they have had a wide influence, not only in the field of child psychiatry, but also on child rearing and education. *Narrative of a Child Analysis* should therefore be read by everyone involved with the treatment of children.

HILDE L. MOSSE, M.D.,
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HYSTERIA, REFLEX AND INSTINCT. By Ernst Kretschmer. (New York: Philosophical Library, 1960, pp. 162.)

The author, who is primarily associated with the study of "body types" and their relation to behavior (1921), is also the author of many other important psychological studies. This book appeared in its original German in 1918, in Stuttgart, Germany.

To the author hysteria is not simply a clinical condition, but a pattern of reaction. Hoche stated in 1902 that under sufficient stress, everyone is susceptible to hysteria. Gaupp considers hysteria "an abnormal manner of reacting to the demands of life." Most authors agree that even the physical manifestations are psychogenic.

Hysterical reactions aim subconsciously to avoid facing threatening situations. Like an "instinctive flurry," it is a built-in mechanism with a biological function. The resulting initial movements are almost wholly mechanical. This is the "primitive" pattern. But in mature persons the pattern is deliberate and moves from without to within.

First comes the *panick* that paralyzes the higher mental functions. Frightened people scream, tremble, suffer spasms and convulsions and run around wildly and aimlessly. Among children this period is not followed by reflective speech, but by rapid pushing, jerking and screaming. Between these two reactions stand the hysterical hyperkinesias, fugues and convulsive paroxysms. The hysterical attack provides a remarkable example of an atavistic instinctive "flurry." Such reactions are safety valves for excessive psychic pressure in defective constitutions. The hysterical hyperkinesias and flurries may be observed in animals and among children in times of panic. It is a defense reaction that results in an involuntary motor discharge. The instinctive reaction travels on the lower pathway, while the higher pathway is that of selective and deliberate behavior. The hysterical reaction bears the same relation to normal behavior as does instinct to the intellect.

Kretschmer discusses the "death feint" (immobilization reflex) which bears a close relation to cataleptic and hypnotic phenomena. Surveying the behavior of animals, children, primitive tribes, mentally retarded, neuropsychotics and normals in times of stress, he finds that their reactions differ only by degrees. He achieved a great simplification and elucidation of the concepts of hysteria, reflex and instinct.

HIRSCH L. GORDON, M.D.,
New York, N. Y.

HISTORY OF PSYCHOLOGY AND PSYCHIATRY. By A. A. Roback. (New York: Philosophical Library, 422 pp. incl. indexes, illus., 1961. \$7.50.)

The author states his purpose to describe "the milestones in the progress of the mental sciences." He has selected some 150 names,

only a few of those still living being included, of chief contributors, outlines their work, together with brief biographical data. Individual items may run from a half page (Thomas Aquinas) to five pages (Freud). There are however many cross-references, occasionally erroneous. Important schools and movements are also discussed. Apt quotations from many of the subjects add value to the work.

Beginning with Aristotle and Plato, the book ends with Yerkes. Following the two major divisions indicated in the title, there are short sections dealing with educational psychology, tests and measurements, collective psychology and animal psychology.

There is much valuable information packed in this little book that must have cost much time to collect. It makes no pretense to being a full history, but it covers wide ground and for quick reference should prove very useful.

C. B. F.

THE PSYCHOLOGY OF CHARACTER DEVELOPMENT. By Robert F. Peck, with Robert J. Havighurst, et al. (New York: John Wiley & Sons, 1960, pp. xix + 267. \$6.50.)

The title is ambitious. Its treatment unites character with morality, which makes for some confusion. The earlier Character Education Enquiry of Hartshorne, May and Shuttleworth (which led to the conclusion of specificity in moral behaviour, and the ineffectiveness of character-building agencies) is challenged (by mode of experimental approach and by the "all-of-a-piece" concept of character-structure) by the current volume, with Havighurst's Prairie City research programme somewhere in the background of character study.

The data on which the report is based include the results of sociological community studies, individual case-histories, projective methods applied to young and old, family studies, and historical assessments of cultural attitudes to character formation in the individual. There emerges a concept of consistency-in-character even in inconsistency-of-behaviour.

The theoretical delineation is confused—inevitably so since character is depicted as a behavioural product in the individual, conditioned by culture, even where culture is symbolized by the accidental mores of conventional control, is so far as these can be identified as "morality." Psychiatry and its superimposed demand upon projective psychology are in part responsible for this confusion.

We still await a culture-free conception of character, whether in the young child or his

elders. The reviewer thinks this worth searching for, and waiting for. The reviewer's bias is towards a developmental psychological approach.

The volume is very worthwhile but, in the main, unconvincing. It raises more systematic problems than it solves.

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BIBLIOGRAPHY OF MEDICAL REVIEWS. Vol. 6. Cumulation. 1955-61. (Washington : U. S. Department of Health, Education and Welfare, Public Health Service, 1961, pp. 436.)

This volume supercedes the annual volumes published during the past five years and lists 3,300 review articles from the 1960 literature which will not appear separately. The style of entry used is that of the *Index Medicus*. It reports those papers which represent the survey, evaluation and synthesis of newly published information on thousands of topics of interest to biomedical research and to the practice of the health sciences.

It is a most valuable reference for medical libraries and cannot be too strongly recommended to assist in the problems of reference work.

JOAN M. W. JOHNSTONE,
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PROGRESS IN CLINICAL PSYCHOLOGY. Volume IV. Edited by L. E. Abt, and B. F. Riess. (New York : Grune & Stratton, 1960, pp. 181.)

In a highly selective and uneven fashion, the present volume purports to cover developments in clinical psychology for the years 1958 and 1959.

Three familiar figures in psychology present their views in their special areas of interest at this time. Carl Rogers appraising research in psychotherapy, much of which he himself has stimulated, finds evidence of steady growth in our understanding of the processes involved in giving help. He offers evidence that suggests a growing convergence of principles among the various schools of psychotherapy. Hans Eysenck sets forth in brief form a state-

ment of his position on diagnosis and behavioral therapy. O. H. Mowrer reiterates without elaboration or improvement his earlier challenging conception of the model of neurosis.

A brief and pointed review of the experimental problems associated with stress and adaptation investigations is offered by Lazarus and Riess. Some of the other areas examined are those of school psychology, group psychotherapy and psychoanalytic theory. The papers on these topics wittingly or unwittingly reflect the perplexity presently characterizing these fields. M. A. White, in a broad but sensitive assessment of psychology in schools, outlines the professional issues currently seeking resolution.

Among the remaining chapters, one of which has questionable membership in this volume, *viz.*, "Psychoanalysis and Literature" by H. Slochower, two chapters invite special comment. A workmanlike review of the research literature on hypnosis has been contributed by Milton Kline. This paper, together with an earlier paper by J. M. Schneck in Volume II of this series, constitute a valuable review of a neglected but lively field.

A particularly provocative paper has been prepared by Gregory Razran setting out a series of Russian experiments on interoceptive conditioning. These experiments in which either the conditioned stimulus or the unconditioned stimulus, or both, are delivered directly to the mucosa of a specific viscus, reveal powerful properties of learning in this realm.

While only a very restricted range of stimuli have been investigated, the unconscious, continuous, and behaviorally potent character of visceral conditioning commands clinical and research interest. Although the discussion of these investigations for psychoanalytic and psychosomatic theory are only briefly discussed, the perspectives revealed are clear and exciting.

Despite its shortcomings as a rounded statement of progress in clinical psychology, many will find particularly useful or interesting chapters which recommend the acquisition of this book.

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NAVY PSYCHIATRIC ASSESSMENT PROGRAM IN THE ANTARCTIC^{1, 2}

J. E. NARDINI, CAPT. (MC) USN, R. S. HERRMANN, CDR. (MSC) USN,³
AND J. E. RASMUSSEN, CDR. (MSC) USN⁴

The International Geophysical Year, 1957-1958, produced a research endeavor of heretofore unequalled magnitude. One part of this gigantic undertaking was the participation of the United States in large scale basic science studies aimed at increasing man's knowledge of the Antarctic. Seven bases were established in Antarctica in connection with this effort. While the scientific program was almost exclusively the responsibility of civilian investigators connected with the IGY, logistic support for the scientific personnel was provided by the United States Navy. The program was considerably reduced in scope following the International Geophysical Year; however, it has been continued to the present time under the sponsorship of the National Science Foundation and the National Research Council. The Navy's role in providing logistic support has remained essentially unchanged.

It has been the Navy's responsibility to transport the scientists and their equipment both to and within the Antarctic, to construct as well as maintain the bases and equipment, and to provide the medical, dental, and commissary services required for what might be considered 7 small communities. All the bases are totally independent and isolated from one another, as well as from the outside world, for approximately 6-8 months. Even radio communication occasionally is cut off due to unfavorable weather conditions.

During the year immediately preceding the IGY, the Navy undertook the establishment of the initial Antarctic bases. This expedition was marked by an untoward event in that one man developed a frank and florid psychosis. As might be anticipated, the ensuing management problems were of considerable magnitude inasmuch as there were no provisions for adequately separating such a patient from the remainder of the group, and it was impossible to evacuate him from the Antarctic.

As a result of this incident, the Bureau of Medicine and Surgery was requested to undertake a neuropsychiatric assessment of all personnel, military and civilian, who were scheduled to winter over during the International Geophysical Year as well as during the subsequent expeditions. It was necessary to begin the psychiatric assessment program on approximately 6 weeks notice; however, in spite of the pressure of operational commitments, an effort was made to approach the task both from a research and a clinical standpoint. The research endeavor has been devoted to developing criteria for psychiatric selection as well as identifying psychological variables influencing performance in such extreme isolation. Because of unforeseen and at times overwhelming difficulties in the collection of data on human behavior in the Antarctic, our fund of objective information in this area has accumulated quite slowly. Nevertheless, we have now learned a great deal about the psychiatric aspects of military duty in such extreme isolation.

The present paper is limited to summarizing the results of the psychiatric assessment procedure with particular emphasis on small stations. Certain personality traits or characteristics which appear to be of significance in successful adjustment in the geographically isolated and stressful en-

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² The opinions expressed in this paper are those of the authors and do not reflect official opinion of the Navy Department.

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vironment of the small station in the Antarctic will also be presented.

This research is not the product of any single individual's effort. While the data were collected by many persons, the bulk of the data analysis was accomplished by the staff of the U. S. Navy Medical Neuropsychiatric Research Unit, San Diego, California.⁵

SUBJECTS

The personnel assigned to duty in the Antarctic program constitute a somewhat different population from that usually encountered in Navy psychiatric selection programs. All men wintering over on Operation Deep Freeze are volunteers in the true sense of the word. None of the military personnel is a recruit, and the civilian personnel are all trained in some scientific or technical specialty.

The distributions for age and length of service of the military personnel assessed for the 1960-1961 Deep Freeze program are presented in Table I. It is interesting to note that over half of the men are 25 years of age or older and almost 50% have over 6 years of service.

TABLE 1
Age and Length of Service Distributions
Military Personnel Assessed for Deep Freeze 1960

AGE	
20 & under	94
21 - 24	133
25 - 28	104
29 - 34	167
35 - 40	60
41 & over	21
TOTAL	579
LENGTH OF SERVICE	
1 yr. or less	29
2 - 3 yrs.	145
4 - 6 yrs.	122
7 - 10 yrs.	93
11 - 15 yrs.	122
16 - 19 yrs.	42
20 yrs. or over	26
TOTAL	579

The personnel are initially selected on the basis of their possessing military or civilian specialty training which qualifies them to perform a clearly defined job in the Antarctic. Inasmuch as the administrative selection is accomplished prior to the psychiatric assessment, all persons undergoing the psychiatric and psychological examination are known to possess sufficient emotional stability, personal adequacy and intellectual capacity to have attained and demonstrated a satisfactory degree of proficiency in their vocational endeavors. Moreover, all of the military personnel have survived the psychiatric assessment program at the recruit level. Thus, in one sense, there is some degree of psychiatric selection operating in the administrative selection of personnel.

Evaluation Procedure. All personnel, military and civilian, are subjected to essentially the same assessment procedures although the examinations are carried out at a number of different Navy activities. In addition to various attitude scales and psychological tests which are administered as part of the program of studying group function and interaction during the period of isolation, each man is required to complete an extensive biographical inventory.

Following the group testing procedure, each man is seen in an unstructured psychiatric interview. While the length of the interview was determined by the psychiatrist, a maximum of one hour is scheduled for this purpose. In most cases the interview is completed in approximately 30 minutes; however, this time is occasionally exceeded when questionable cases are encountered. The completed biographical inventory is available to the psychiatrist at the time of interview and is used to obtain a rapid appraisal of areas in the individual's past personal history which might be worthy of some careful exploration. At the completion of the interview, the psychiatrist is requested to complete a form in which he summarizes the results of his examination and makes a rating on a 5-point scale as to the man's suitability for duty in the Antarctic.

Each man also is seen by a clinical psychologist who administers a Rorschach test and summarizes his findings on the same

⁵ Among those persons who made an extensive contribution to the research effort are: Drs. H. Zimmer, J. H. Rohrer, W. L. Wilkins, E. K. E. Gunderson, P. Nelson, and J. A. Rose.

form used to record the results of the psychiatric examination. The psychologist also rates each man in terms of his suitability for Antarctic duty.* Upon completion of the individual assessments, the psychologist and psychiatrist who had conducted the examinations meet as a team and make a final appraisal of the subject which is based on a joint consideration of their individual findings. The final team rating, which often differs from the rating assigned by either of the examiners, is used as a basis for the formal recommendation as to the subject's psychiatric suitability for Antarctic duty.

Assessment Criteria. In any operational program of this nature, the isolation of objective criteria for use in making a psychiatric and psychological assessment constitutes a perennial methodological problem of major proportions.

Because of operational requirements that psychiatric assessment programs be undertaken on short notice, it was not possible to conduct preliminary studies which would yield even crude criterion information. After a search of the limited literature which was available, a decision was made to focus upon 4 primary areas in determination of psychiatric suitability for the Antarctic program. These areas were: motivation, history of past personal effectiveness, present ego strength and adequacy of defense mechanisms, and finally adequacy of interpersonal relationships. Thus, individuals who showed no obvious defects or weaknesses in these 4 areas were considered sufficiently stable to adjust in the Antarctic—or for that matter for almost any program of this nature.

In assessing the 4 areas outlined above, the clinicians were requested to focus on the adequacy of the individual's present and past motivation and functioning rather than attempt to predict what would happen at some time in the future in an essentially unknown situation. As a rationale for this procedure, it was considered that, other factors being equal, an individual who demonstrates evidence of adequate or healthy motivation and personality integration will continue to function effectively in the future.

The clinician's past experience in Navy neuropsychiatry was used as a frame of

reference for arriving at a determination of what constitutes an "average" rating on the 5-point scale of suitability. It was possible, therefore, to avoid speculating during the early stages of the assessment program as to the nature of the specific stresses of Antarctic isolation. In essence, this follows the "actuarial" approach to clinical judgment so lucidly discussed by Hunt(1). Fortunately, Navy psychiatrists and clinical psychologists have an opportunity to see large numbers of relatively stable individuals, a factor which aids in forming an adequate frame of reference for the assessment procedure.

Subsequent to the first year, the assessment criteria have undergone a continual refinement. This has been done primarily on the basis of information obtained during debriefing interviews with wintering-over personnel, such as those conducted by Rohrer(3, 4) and Mullin, *et al.*(2). However, it is interesting to note that 4 areas which were initially given greatest weight in the assessment procedure have remained unchanged. The subsequent refinements have consisted of adding more detailed information as to the pertinent variables in each of these areas. The nature of these refinements will be the section on results.

Follow-up Data. The complexity of collecting follow-up data in this situation is astounding and at times extremely frustrating. On occasion the forms for recording the information have been lost or destroyed in transit before the wintering-over period began. On other occasions, the pressure of a 16-hour work day precluded the collection of data in accordance with the prearranged schedule. However, in spite of these difficulties, information on the incidence of serious psychiatric disturbances has been obtained from all stations. Moreover, follow-up information concerning actual performance has been obtained on 10 small stations as well as 2 of the larger stations.

Four sources of criterion data were built into the research design: peer nominations, supervisor performance ratings, medical symptom check lists, and debriefing interviews with personnel at the completion of their wintering-over experience. The peer nomination technique generally proved to

be so psychologically threatening that it was discontinued as a routine technique. The symptom check lists yielded very little information on the group as a whole. However, the supervisor performance ratings, combined with information obtained from the interviews, present a relatively clear although gross picture as to the adequacy of each individual's psychiatric functioning during the wintering-over period. The officers-in-charge of the stations were responsible for collection of the ratings which were obtained during the wintering-over period.

RESULTS

Incidence of Psychiatric Disorders. During the 5 years covered by the present program, there have been no documented cases of psychiatric illness, which clearly reached psychotic proportions, among the wintering-over personnel. Of the 6 men formally admitted to the sick list, only one had been through the psychiatric assessment procedures. This case was diagnosed as an emotional instability reaction. The remaining 5 men had been selected as last minute replacements for individuals who dropped out of the program for a variety of administrative reasons. Their diagnoses included 3 cases of relatively severe neurotic depression and 2 of anxiety reaction.

While the above data would indicate that the assessment program generally has been successful, it should not be construed as implying that there has been a complete absence of psychiatric disturbances in the Antarctic. Information obtained through debriefing interviews clearly indicates that acute emotional disturbances are not uncommon. This is particularly true at the smaller stations, comprised of 15-40 men. There also is reason to believe that several men may have experienced brief near psychotic episodes. Examples of such incidents are reported by Rohrer(3). Although these psychiatric problems may not be of sufficient magnitude to necessitate admission to the sick list or formal medical treatment, on occasion they create extremely tense and stressful situations for the remainder of the station personnel. With a few isolated exceptions, the groups appear to have spontaneously responded to the acute emotional disturbances with tech-

niques which closely resemble those of the classical therapeutic community.

Low grade depressions are prevalent during the 3-month period of darkness. Headaches which appear to be of psychogenic origin are frequently reported. While acute anxiety attacks are occasionally reported, these are relatively uncommon and usually related to specific situational factors beyond the individual's control. Not a single case of psychosexual disturbance or overt homosexual activity has been reported during the 5 years of the study. The functional backaches and gastrointestinal complaints so commonly found in the military services have rarely been observed among the wintering-over personnel. However, this is not surprising in view of the highly select nature of the population.

Relationship of Psychiatric Assessment to Performance. The assessment program has been successful in identifying and eliminating those individuals who will become totally ineffective under the stress of Antarctic isolation, or will require hospitalization for a psychiatric disorder, but it has been less effective in predicting precise levels of performance. While this finding certainly would be expected in view of the history of psychiatric assessment programs in general, the results nevertheless do show a significant positive correlation between prediction and performance.

Two separate approaches have been made to analyzing the relationship of psychiatric prediction and performance effectiveness. First, the performance of the military personnel at each of the 10 small stations was evaluated on the basis of supervisory ratings.⁶ Secondly, the predictions were studied in terms of men falling at either extreme of the performance continuum.⁷

Because the evaluations of Antarctic adjustment were based on gross factors rather than precise measures, broad categories of

⁶ Analysis of this portion of the research data was made by Dr. E. K. E. Gunderson and Lt. P. Nelson (MSC) USN, at the U. S. Navy Medical Neuropsychiatric Research Unit, San Diego, Calif.

⁷ This analysis was undertaken by Dr. J. H. Rohrer, Georgetown University School of Medicine, using data which he and Capt. C. S. Mullin (MC) USN collected through debriefing interviews in the Antarctic.

performance effectiveness were used. In analysis of the predictions in terms of supervisor performance ratings, subjects in each group were classified "high" or "low" in performance (upper half or lower half of the group), on the basis of independent rankings by 2 clinicians. In only one case was there more than one disagreement between the 2 clinicians on the categorization of subjects in a given group. The differences were resolved through use of additional information, such as that obtained from the debriefing interviews. It should be noted that the splitting of each group into an upper and a lower performance category, with an equal number of subjects in each, does not imply that all of the subjects in the lower performance category were unsatisfactory or ineffective during the wintering-over period. On the contrary, the vast majority of the men in the latter category did serve satisfactorily.

Table 2 includes ratings made on men at 6 of the stations. These stations were con-

sidered together because the subjects were rated on one form of the psychiatric rating scale (ratings from 1 to 5), while the men at the 4 stations included in Table 3 were rated on a different scale (ratings from A to E). On the first scale, a rating of 3 was interpreted as "average"; a rating of C on the second scale indicated "can't decide whether superior or inferior." Because of a possible difference in examiner orientation, the data were summarized separately.

The tables indicate fairly substantial predictive validity for the psychiatric ratings at either end of the performance scale. The degree of relationship is shown, roughly, by the tetrachoric correlations of .41 and .66 which are statistically significant in spite of the unequal distributions for the dichotomized prediction categories.

Table 2 discloses the predictions of superior or outstanding performance to have been more valid for the Deep Freeze 1957 and 1960, while during Deep Freeze 1958 the reverse was true, and the predictions of

TABLE 2
Relationship of Psychiatric Screening Predictions to Performance
Deep Freeze 1957 and 1960

STATION	PERFORMANCE CATEGORIES	PREDICTION CATEGORIES			N
		INFERIOR OR POOR <3	AVERAGE 3	SUPERIOR OR OUTSTANDING >3	
1	High	0	2	2	4
	Low	2	1	0	3
2	High	3	3	3	9
	Low	1	8	1	10
3	High	0	4	6	10
	Low	4	4	2	10
4	High	6	3	1	10
	Low	5	4	1	10
5 and 6	High	4	6	6	16
Combined	Low	6	6	4	16
Total Small	High	13	18	18	49
Stations	Low	18	23	8	49
Proportion falling in		.42	.44	.69	
High Performance Category					
Combining Columns 1 and 2 versus Column 3:					
		AVERAGE, INFERIOR OR POOR 3 OR <3		SUPERIOR OR OUTSTANDING >3	N
	High	31		18	49
	Low	41		8	49
Proportion falling in					
High Performance Category		.43		.69	
r=.41					

poor performance were more valid (Table 3). It is difficult to account for this reversal.

lar station is outstanding for 2 reasons. First, the interpersonal difficulties experienced by

TABLE 3
Relationship of Psychiatric Screening Predictions to Performance
Deep Freeze 1958

STATION	PERFORMANCE CATEGORIES	POOR D OR E	CANNOT DECIDE C	GOOD TO EXCEPTIONAL A OR B	N
1	High	0	1	5	6
	Low	2	1	2	5
2	High	1	0	8	9
	Low	0	2	7	9
3	High	0	0	12	12
	Low	1	2	8	11
4	High	0	1	16	17
	Low	5	2	11	18
Total Small Stations 1958	High	1	2	41	44
	Low	8	7	28	43
Combining Columns 1 and 2 versus Column 3:					
		POOR OR CANNOT DECIDE C, D OR E	GOOD TO EXCEPTIONAL A OR B	N	
	High	3	41	44	
	Low	15	28	43	
Proportion falling in High Performance Category		.17	.59		
$r_t = .66$					

Quite possibly, the difference in terminology on the psychiatric assessment rating scales had a significant influence. On the other hand, these results may be attributable to the fact that a different group of examiners is used each year in the assessment program. This latter factor becomes important in view of the varying levels of training and experience of the psychiatrists and psychologists who served as examiners. Generally speaking, the psychiatrists' training ranged from the first year residency level through board certification with 10 years of clinical experience. The clinical psychologists' training ranged from one year of graduate school through the Ph.D. level with 15 years of experience.

In view of the small number of subjects involved, it was considered inappropriate to attempt more detailed statistical treatment of these data. However, it is extremely interesting to note that station number 4 (Table 2) is the only one of the 10 stations at which over half of the personnel were considered to be psychiatrically inferior on the basis of initial assessment. This particu-

lar group during the wintering-over period were, without a doubt, far more extreme than those which have been experienced by any other group of men during the 5-year history of Operation Deep Freeze. Secondly, the medical officer assigned to this station was the only one among the 10 physicians to consider the psychiatric assessment program totally ineffective.

Rohrer approached the question of assessment validity by studying the 2 extremes of the performance continuum. Through a review of the debriefing information which he and Mullin had collected during their visits to the Antarctic, 6 men were selected on the basis of having made the most successful adjustment among the personnel at small stations during the wintering-over period. Six men also were selected as having made the least successful adjustment. A brief description of each man was prepared, including the factors which had contributed to the satisfactory and unsatisfactory adjustment. Once this had been accomplished, the original assessment records were obtained and reviewed to check the validity of the

assessment predictions. This work is reported in detail elsewhere(4). However, it should be noted that among the men performing most successfully, 3 were rated as superior and 3 as above average on the initial assessment. Among the least successful men, 2 were rated as inferior, 2 were rated as average bordering on inferior, and 2 were rated as average.

Obviously, these results cannot be interpreted as demonstrating that the assessment procedures yield accurate predictions of effectiveness under conditions of Antarctic isolation. Rather, the data are considered to constitute positive and encouraging benchmarks for the development of further criteria. Certainly, the results are sufficiently positive to warrant continuation of the program and further refinement of the assessment procedure.

Revised Screening Criteria. Through a process of repeatedly postulating the importance of specific motivational factors and personality characteristics, and constantly revising the conceptual formulations through debriefing interviews, it has been possible to gradually focus on what appear to be the more significant variables in adjustment to Antarctic isolation. Obviously, there is no one personality pattern which ideally suits an individual for assignment to a program such as Operation Deep Freeze. However, a number of positive and negative characteristics have been isolated during the past 5 years which now appear to be important in the psychiatric assessment of personnel for this duty. They are briefly summarized below.

Motivation. Positive motivation for Antarctic duty is not given as much weight as it was at one time in the assessment program. Many of the most successful men are not really sure why they volunteer. Among the more positive motivations are: save money, possible advancement in rate, and the challenge of an unusual experience. Unhealthy motivations, which on the basis of past experience are cause for disqualification, include the following: escape from marital conflict, transfer from an undesirable duty station, and immature search for adventure. Parenthetically, it should be noted that Antarctic duty is now mostly hard work, little adventure, and rather

plush living accommodations.

History of Past Personal Effectiveness. This variable has come to be considered one of the most important in the assessment of Deep Freeze personnel. Each man in the wintering-over party has a specific job which he must perform. In one sense, every man at a small station is dependent on every other man. Status is determined primarily by vocational effectiveness. The man who is not technically competent is both a source of threat to the well-being of the group and a source of interpersonal conflict. The technically competent individual may display considerable psychopathology during the wintering-over period and still be effective. However, the same degree of psychopathology in a man with less technical competence would render him ineffective. Under the heading of work effectiveness, one must include responsibility and dependability as well as technical competence. A history of ineffectiveness in vocational performance or inadequate training for the job to which a man will be assigned are clear reasons for disqualification.

Ego Strength and Adequacy of Defense Mechanisms. Any evidence of potential for emotional decompensation, or history which is suggestive of possible decompensation during periods of stress in the past, is considered disqualifying. At the present time, much greater emphasis is placed on adequacy of defense mechanisms than upon the nature of the mechanism. Thus, clear-cut neurotic mechanisms, even though they may border on the pathological, are not in and of themselves considered disqualifying. In this connection, there has been a shift in attitude toward psychopathology during the time the assessment program has been in operation. The only neurotic mechanism which is now considered clearly disqualifying is that of extreme rigidity. Experience has shown that the rigid individual who maintains ego integrity by adherence to fixed beliefs or routines without ability to be flexible in the face of group needs invariably becomes a source of disruption to the group during the wintering over. Although not originally considered to be of any particular significance, personality disorders have been found to constitute a rather serious problem. Demanding, sensi-

tive, narcissistic individuals invariably are a constant source of friction and a demoralizing influence to personnel at small stations. On the other hand, individuals manifesting evidence of personality disorder adjust reasonably well at larger Antarctic stations where there is a lesser degree of enforced interpersonal contact.

Group Structure. While work efficiency now might be considered the most important variable in Antarctic adjustment, the structure of the small isolated group has come to be considered a close second. Because of operational demands in the recruiting and training of personnel, little attention has been given to this factor in the assessment program. However, it is now clear that the greatest future gains in the preventive psychiatry aspects of the assessment procedure will be found in evaluating the individual in terms of the group to which he will be assigned. Advances in this area will make heavy demands upon the theory and techniques of social psychology. It is anticipated that a large portion of future research effort will be devoted to the development of criterion measures of small group effectiveness in the Antarctic and methods for structuring such groups.

SUMMARY

The Navy program for psychiatric assessment of personnel wintering over in the Antarctic has been described. During the 5-year history of the assessment program, there have been no documented cases of psychotic illness. Six men have been admitted to the sick list for psychiatric reasons, only one of whom had been through the assessment procedure. This case was diagnosed as a personality disorder. Thus, it would appear that the program has been effective in identifying and eliminating individuals who will develop serious or incapacitating emotional illnesses under the stress of isolation.

An analysis of data relating to performance effectiveness in the Antarctic shows that there is a significant positive correlation between the initial psychiatric prediction and subsequent performance. However, because of several limitations in the data, the results in this aspect of the study should be interpreted with caution.

Certain shifts have occurred in the assessment criteria during the past 5 years. The most important variable in adjustment to Antarctic isolation now is considered to be vocational effectiveness. The structure and composition of the small isolated group is next in importance. Except for extreme rigidity, there are no neurotic mechanisms which are considered, *per se*, to be disqualifying. However, personality disorders do constitute a rather serious problem.

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DISCUSSION

EUGENE ZISKIND, M.D. (Los Angeles, Calif.). —I have nothing but commendation for this paper of Capt. Nardini and his colleagues. The facts speak for themselves. The program has selected 1000 normal or superior, successfully screened individuals so that not a single major psychiatric casualty occurred during the stress of Antarctic isolation—an enviable record for even less stressful ways of living. No controls were possible. Perhaps a clue as to what such controls might have shown is to be gleaned from the fact that 5 of the 6 men who appeared on the sick list came from the small number who were not screened.

A recent article in *Science*, "Rationalism versus Empiricism in Cosmology," includes the statement, "The temptation to substitute logic for observation is particularly hard to resist in astronomy." How much more is this true for the behavioral sciences. Yet the authors did resist this temptation as shown by their hard headed common sense empiric approach throughout their study.

I assume I was chosen discussant because of my experiences in so-called "sensory depriva-

tion." This leads me to make a few comments related to the second goal of this study, which was to ascertain factors that might interfere with the efficiency of personal performance. The authors mention that in stations of 100 men tensions are minimal, but that in smaller groups of 15-40 problems appear. One would expect that in isolation of the single individual under these conditions the stress would be much greater and approximate that of sensory deprivation experiments. Experiences in the Antarctic might be analogous to the sensory deprivation situations known to jet pilots, long distance night truck drivers and radar sentinels exposed to little external stimulation.

Be that as it may there are many similarities between sensory deprivation and isolation, although the two are, of course, not interchangeable. Yet in extreme instances—and frequently in moderate ones also—sensory deprivation and isolation are concomitants and cannot be separated. In fact herein lies one of the major obstacles to progress in sensory deprivation research. In neither sensory deprivation nor isolation is the stressor unitary but consists of admixtures of multiple factors. The variables from study to study are so great that it would be well to insist on operational definitions. Furthermore, the resulting symptoms have not been clearly defined, making adequate comparisons difficult.

Besides these limitations which sensory deprivation and isolation have in common, the limits of stress for each are as yet unknown. What is the least amount of sensory deprivation or isolation that can produce symptoms and what is the greatest degree of either that can be tolerated without producing symptoms? It was the evidence of Hebb and his group that all individuals who remained in the ex-

perimental isolation chamber for 3 days had hallucinations which pointed to a universal vulnerability. It would be helpful therefore to differentiate the amount of sensory deprivation which causes symptoms universally and also that which indicates the further limits of individual vulnerability. These items give only a partial picture of the complexity of sensory deprivation research of the individual subject in a controlled experimental environment. How much more complicated are the field studies of Antarctic isolation where many of these considerations also apply, but where one has additional factors related to the small group with less isolation and much less readily identifiable variables. The authors have elsewhere referred to the large number of unanswered problems.

One final reference related to their recognition of the need for knowledge from the field of social psychology in the form of 2 questions: 1. Would the inclusion in the team of investigators of other social scientists with their field techniques (*e.g.*, the sociologist and anthropologist) have any merit? 2. Would the inclusion of participant observers in some of the stations be warranted, as a more definitive way of settling the value of such procedure?

Let me close by saying that it is to the everlasting credit of the authors that under the limitations of short notice and a distant arduous environment calling for the taking out of one or more years of the lives of professional volunteers they still rigged such a well conducted research into what was primarily a practical assignment. These investigators have the privilege of evaluating a military and scientific experiment in nature with great implications for psychiatry. They have already shown such scientific perspicacity that we shall look forward with avid interest to their future reports.

THE COURSE AND OUTCOME OF PSEUDONEUROTIC SCHIZOPHRENIA¹

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There are few reports of the history and treatment of patients with pseudoneurotic schizophrenia, usually confined to one or a small number of cases (1, 2). There are no studies of the course of the illness with post-treatment follow-up investigations. Many psychiatrists are interested in what happens to these patients during therapy and after they leave treatment. Do they sustain the gains achieved? Do they relapse and again become dominated by pseudoneurotic symptoms or do they develop classical schizophrenic reactions? What kinds of treatment are associated with what course and outcome?

METHOD

The course of the illnesses of 109 patients was followed for a period of 5-20 years. It is convenient to consider these patients in two groups: Group 1: 45 patients treated in clinics or private practice by one of us and subsequently interviewed 5-15 years later. A few were being cared for by other psychiatrists at the time of the follow-up study. Detailed reports were obtained from these psychiatrists. Group 2: 64 patients who had been hospitalized at Psychiatric Institute, most of them known to at least one of us at the time of initial admission or during subsequent admissions. Of these, 34 were interviewed by one or more of us 5-20 years after the patient was originally admitted. The other 30 patients were not available for follow-up interview. However, more than two-thirds of this group had been hospitalized subsequently and one-fifth were in the hospital at the time of the follow-up study. Clinical summaries were

obtained from these hospitals. In addition, information was available through correspondence and telephone conversations with patients, relatives, and patients' psychiatrists.

A number of factors influence the collection of data in this type of follow-up study, and these must be considered in appraising the results. Only one-third of the patients, who were regarded as having a diagnosis of pseudoneurotic schizophrenia at the time of first admission to Psychiatric Institute, responded to our letter requesting an interview. A significant number of the letters were returned as undeliverable. Some patients wrote declining an interview, stating that they wished to repudiate any memories of past illness and hospitalization. This factor may have accounted for the failure of some to respond at all. Patients who came for interview volunteered for a variety of reasons: a wish to express gratitude for earlier treatment and provide information that might help others; a dramatization of triumph over past unpleasantness and fear; curiosity about the project; an effort to gain our appraisal of their mental health; a recognition of possibly needing treatment or a desperate plea for treatment. The majority of Group 1 patients responded and the data concerning them is more extensive.

The initial diagnosis of pseudoneurotic schizophrenia in these patients was based on finding a number of the primary clinical symptoms of pseudoneurotic schizophrenia and the secondary clinical symptoms of pan-anxiety, pan-neurosis and chaotic sexuality (3). Patients who had a history of overt schizophrenic reactions prior to initial admission to Psychiatric Institute or prior to beginning clinic or private treatment, were excluded from the study. At the time of the follow-up interview, often conducted by two or three of us, the patient's history preceding initial hospitalization was reviewed. If the diagnosis of pseudoneurotic schizophrenia could not be retrospectively con-

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firmed, the patient was excluded from the series. Interval history was reviewed with attention to the patient's total life functioning. Evidence of an overt schizophrenic episode during the interval was carefully evaluated and the diagnosis was made according to the usual criteria, including data from hospital records if the patient had been hospitalized. An evaluation was made of the patient's current psychiatric status and of his functioning in all areas of behavior. On the basis of these data, we arrived at a psychiatric diagnosis and a comment on the patient's symptoms and his current functioning. We devised a 5-point rating scale as a convenient method of grouping the patients according to their level of health and functioning at the time of the follow-up interview. The following criteria were used:

1. Absence of manifest clinical symptomatology. Functioning adequately in all areas of behavior (domestic, social, occupational, sexual, intrapsychic).
2. Manifest symptoms few in number and mild in intensity. Functioning moderately adequate in all areas—or adequate in most areas and poor in a few areas.
3. Manifest symptoms moderate in number and intensity. Functioning moderately adequate in some areas—or poor in most areas and adequate in a few.
4. Manifest symptoms dominating the patient's life.

Functioning impaired in all areas. 5. Overt schizophrenic symptomatology. Functioning impaired in all areas.

This type of rating scale has many subjective components and its effectiveness depends on the skill and experience of the investigators who apply it and the communication among these investigators. The members of our group have been closely associated for more than a decade and have spent hundreds of hours studying and evaluating a large number of patients before, during and after various types of treatments and tests in clinical and research work. We have found this clinical method of evaluating patients superior to several types of allegedly objective and quantitative methods that we have tried. A series of concise statements about a particular patient provides a clearer picture than any of the behavior rating scales that we have used or seen.

RESULTS OF FOLLOW-UP INVESTIGATIONS

The distribution of patients according to sex, previous episodes of emotional illness, and age at time of initial contact is given in Table 1. Of the 109 patients studied, approximately half were men and half women. There was a slight preponderance of women in Group 1 and of men in Group 2.

TABLE 1

Distribution of Patients According to Sex, Previous Episodes of Emotional Illness, and Age at Time of Initial Contact

			AGE (YEARS) AT TIME OF INITIAL CONTACT					
	TOTAL PATIENTS	PREVIOUS EPISODES OF EMOTIONAL ILLNESS	8-10	11-20	21-30	31-40	41-50	51-56
Group 1								
Male	19		1	1	12	3	1	1
Female	26		—	2	20	3	1	—
Total	45	14	1	3	32	6	2	1
Group 2								
Male	38			5	12	8	10	1
Female	26		—	2	6	15	2	1
Total	64	27	—	7	18	23	12	2
Group Total								
Male	57		3	6	24	11	11	2
Female	52		—	4	26	18	3	1
Total	109	41	3	10	50	29	14	3

The actual age of onset of the illness is often difficult to determine and we gained the impression that many of the patients had had some disability most of their lives. Further information on this point will be presented at another time in a discussion of the development of pseudoneurotic schizophrenia. About 40% of the patients had a history of one or more previous episodes of emotional illness, only some of whom had had psychiatric treatment. The incidence of a history of previous episodes was lower in Group 1 (31%) than in Group 2 (42%). We regarded these episodes as earlier manifestations of the pseudoneurotic schizophrenia that we observed at the time of our initial contact.

The age of patients at the time they first came to the Psychiatric Institute or for treatment with one of us shows a striking cluster in the third and fourth decades of life. Almost 50% were in the 21-30 age-range and more than 25% in the 31-40 age-range. Pseudoneurotic schizophrenia does

occur in younger age groups, and at a higher incidence than our findings show (9%). Whether the diagnosis can be made in children under age 12 or 10 is a controversial issue. Bruch states that some of the evidences of disorders of thinking and associations, disorders of emotional regulation and of sensorimotor and autonomic functioning can be perceived in this age group if they are looked for (4). The same is true at the other end of the age spectrum. The 2 oldest patients in this survey were 56 at first contact. However, we have studied a number of older patients at the Psychiatric Institute, the eldest being a man of 69 who had apparently been suffering from pseudoneurotic schizophrenia for 50 years or more. He had been treated by numerous therapists and hospitals with many oscillations in the intensity and type of his symptomatology.

A survey of selected data on the subsequent course of these patients is presented in Table 2. The range of the follow-

TABLE 2
Subsequent Course of Patients: Follow-Up Period, Hospitalization, Overt Schizophrenic Reactions, and Suicidal Attempts

	GROUP 1	GROUP 2	GROUP TOTAL
Total patients	45	64	109
Follow-up period			
Range (years)	5-15	5-20	5-20
Average (years)	8	9	9
Subsequent hospitalization			
No. of patients	5	36	41
No. of times	1-3	1-9	1-9
Total months' duration of hospitalization	NO. OF PTS.	NO. OF PTS.	NO. OF PTS.
1-3		13	13
4-6	2	15	17
7-12	1	22	23
13-24		9	9
25-36		4	4
37 and over	2 *	6 †	8
Patients in hospital at time of follow-up study	3	8	11
No. of patients with overt schizophrenic episodes	4	17	21
With subsequent remission	1	9	10
Without remission	3	8	11
Suicidal attempts during illness	1	10	11
Suicides	1 ‡	1 §	2

* Essentially continuous hospitalization: 80 months and 70 months.

† One patient: 40 months; one patient: 52 months; and 3 patients: 80 months.

‡ Patient began private treatment in 1950 and left in 1952. Two subsequent hospitalizations; ECT treatment. Committed suicide in 1954.

§ Patient at Psychiatric Institute in 1945 and again in 1946. Committed suicide in 1948.

up period was 5-20 years; average 9 years. There are two exceptions to the 5-20 year range; namely 2 patients who committed suicide 3 and 4 years respectively after initial contact and 2 years after final contact. There were no other deaths in this series of patients.

Some of the details about the incidence and duration of initial and subsequent hospitalization are summarized in Table 2. Following initial contact, whether at the Psychiatric Institute or in clinic and private practice, about two-fifths of the patients were hospitalized sometime during the follow-up period. There is a significant difference between the 10% of Group 1 and more than half of the patients in Group 2 who required such treatment. The number of hospitalizations after initial contact, the total time spent in the hospital and the number of hospitalized patients at the time of follow-up study were also greater for Group 2 than for Group 1 patients. In both groups, patients were inclined to seek repeated voluntary hospitalization and to leave against advice, though some were discharged prematurely or because they refused specific treatment. The incidence of legal commitment was higher in Group 2, some being committed when they developed overt schizophrenic episodes during voluntary hospitalization or shortly after eloping from a hospital. These data on hospitalization may be a commentary on the ambivalence of patients about accepting adequate treatment (including hospitalization or somatic treatment) and the ambivalence of some psychiatrists about the use of somatic treatments or hospitalization. Information about the treatment of these patients will be presented below.

Whether patients with pseudoneurotic schizophrenia ultimately develop overt schizophrenic symptomatology has been a controversial question for some time. That they do is a premise implicit in the use of such terms as latent, borderline and transitional which some workers employ to describe the pseudoneurotic syndrome(3). To our knowledge, there have been no definitive studies on this question, nor of related issues, such as the kinds of overt schizophrenic reactions that develop and the incidence of remissions. In our observations,

approximately 1 patient in 5 (20%) developed an overt schizophrenic episode and half of these (10%) had a remission. Thus, 10% who originally had the pseudoneurotic form of schizophrenia later developed chronic forms of schizophrenia with the classical catatonic, paranoid and occasionally hebephrenic symptomatology. We can speculate that appropriate treatment applied early enough might yield an even lower incidence of overt episodes and a greater frequency of remissions.

The development of overt schizophrenic symptomatology was more frequently gradual and insidious than sudden and abrupt. Catatonic and paranoid symptomatology were most frequently observed and, in some instances, there was acute excitement oscillating with stupor. In most instances, a diagnosis of schizophrenia, mixed type, was appropriate for purposes of record. It is generally recognized that those who have abrupt onset of florid symptomatology have a greater tendency to remission than those with insidious onset. There were instances of remission in patients with both types of onset in our material. The illnesses of some patients progressed insidiously, often despite adequate treatment, and signs of schizophrenic deterioration became manifest in a few.

Eleven of the patients were known to have attempted suicide sometime during the course of their illness. It may be more accurate to state that they took action that could seriously jeopardize their health and welfare, some instances of which occurred during hospitalization. Only 2 patients actually committed suicide. We regard this 10% incidence of attempted suicide and less than 2% actual suicide as a very low rate, particularly in view of the suffering that many of these patients experience.

The level of health and functioning of each patient was evaluated at the time of the follow-up investigation according to the rating scale described above. The incidence of the various ratings in the 3 groups of patients is recorded in Table 3. It must be noted that we were quite conservative in evaluating freedom from symptomatology and adequacy of functioning. We feel that some of the primary clinical symptomatology can be discovered in some patients

TABLE 3
Subsequent Course of Patients: Level of Health and Functioning at Time of Follow-Up Study

RATING : *	GROUP 1		GROUP 2		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
1	2 }	44 †	12 }	19	2 }	29
2	18 }				30 }	
3	18 }	40	27 }	42	45 }	41
4	3 }				20 }	
5	4 }	16	8 }	39	12 }	30
Total Patients	45		64		109	

* Criteria for numerical ratings given in section above on methodology.

† For convenience of discussion, the numerical ratings of outcome at the time of follow-up evaluation have been consolidated as follows: Ratings of 1 and 2: Good; Fair; and ratings of 4 and 5: Poor. The percentages of patients in each group with Good, Fair and Poor outcomes are designated in the table. The percent distribution of outcome for all patients is also shown.

who appear to be functioning well. Reports of a patient's functioning, by a relative or himself, can be biased toward health. Careful clinical examination frequently can penetrate the façade and disclose some of the primary clinical symptoms.

Even those who derived a great deal of benefit from treatment, including positive alterations in character and a hitherto unachieved level of functioning in many areas, were regarded as still vulnerable to illness. Integrative capacity, threshold of anxiety response, reactive threshold to various stimuli and regulation of energy remained somewhat tenuous, though equilibrium was maintained much more easily and consistently than ever before. We have noted that these patients often have an irregular, oscillating course with frequent shifts in the leading symptomatology, variations in the intensity of anxiety and of the symptomatic defenses against it, as well as variable inhibition of functioning. Patients who had made solid gains through treatment and life experiences were observed to have what we term microscopic, rather than gross, oscillations—brief flurries instead of prolonged storms—from which there was often a rapid recovery. Such flurries were usually associated with some type of environmental vicissitude. The reaction was often recognized by the patient as being related to such stimuli, either immediately or in retrospective consideration.

Other patients, such as some of those rated 2, and many rated 3, had some secondary clinical symptomatology and some impairment of functioning. The oscillatory

pattern was more pronounced in their illnesses, though not as prominent as it had been earlier, when they were more seriously disabled. Patients rated 4 were dominated by symptoms and had a total or partial paralysis of functioning. The leading symptoms and functional incapacities might be different than those which had been observed initially, but the degree of impairment was the same as before.

These observations are given as an elaboration of the rating scale concept and our technique of applying it. A patient seen in follow-up interview might be in one or another phase of an oscillation at that time; for instance, not as well as he had been for some time. This might lead to a downgrading of the rating he is given, depending on the frequency and intensity of such slumps and our evaluation of his relative vulnerability to decompensation. One patient, who had recently achieved success as the "star of a Broadway smash-hit," was found to be functioning relatively well and to be essentially asymptomatic, in contrast to his condition at the time of initial contact 9 years earlier. We felt that this level of functioning was maintained, at least in part, by the situation of the moment and that symptoms could reappear if a stressful situation arose. Thus, he was rated 2 instead of 1, a conservative evaluation based on the recentness of the gains and the special circumstances attending them.

For convenience of discussion, we have consolidated the numerical ratings of the levels of health and functioning at the time of follow-up evaluation (hereafter termed

"outcome"). Ratings of 1 and 2 are designated as Good ; 3 : Fair, and 4 and 5 : Poor (Table 3). Roughly one-third of the 109 patients falls into each of the categories. However, there are notable differences in outcome between the two groups ; the Good and Poor outcomes in Group 1 (44% and 16%) are an approximate reversal of the distribution in Group 2 (Good : 19% and Poor : 39%). This finding was expected in view of the composition of the two groups, the Group 2 patients initially having sufficient disability to warrant hospitalization. It is noteworthy that patients in Group 1 and some of those in Group 2 did achieve a favorable level of functioning and freedom from symptoms. Seventy percent of all of the patients achieved some relief of suffering and some improvement in functioning, changes gratifying to them and to the community.

We have investigated some of the clinicodynamic factors that might have been associated with the achievement of good, fair and poor outcomes 5-20 years after onset of illness or beginning of treatment. The following were surveyed : family history of mental illness in the direct or collateral line ; unusual occurrences during pregnancy and delivery ; sibling position ; broken home on the basis of death, divorce or protracted illness of one of the parents ; socioeconomic hardship ; personality of parents ; patient's development and his reactions to himself and the environment in infancy, childhood, adolescence and adult life (including character structure) ; educational and occupational history ; age at onset of illness ; severity and type of precipitating factors ; type, intensity and oscillations or shifts in secondary clinical symptomatology ; psychiatric treatment—including number and duration of hospitalizations, as well as type and duration of treatment in and out of hospitals (psychoanalysis, psychotherapy, electroshock, medication, other) ; attempted evaluation of whether the appropriate treatment was selected at the right time ; and subsequent environmental occurrences during the follow-up period.

The relative reliability of observations on these factors is highly variable. For instance, if the patient's father had been in a state hospital during the patient's youth,

one has definite evidence of a positive history of mental illness in the family. In addition, one can probably conclude that there was attendant disruption of the domestic scene with the patient fatherless for a significant period of time. Evaluation of the environmental opportunities and vicissitudes in an intact home and the patient's reactions to these is a more difficult task and not subject to the kind of verification just mentioned. The patient's age at the time he finished school is easily determined but the age at which he became ill is often unclear. The conclusions reached in the evaluation of these clinical factors must be viewed in the light of relative reliability. Apparent correlation, or lack of it, between a given factor and the patient's level of health and functioning at the time of follow-up would, in turn, be influenced by these considerations. The method of selection of the patients and the size of the sample also can affect the results.

Though statistically significant conclusions cannot be reached, we felt that certain trends or indications of correlative relationships might be evident. These can have psychodynamic, therapeutic and prognostic connotations and can serve as indicators for subsequent research.

This investigation disclosed that there is a correlation between the outcome of the illness and some of the factors mentioned, such as the type of treatment administered, but no significant relationship between outcome and many of the other factors studied. As an illustration of the latter, 3 of these factors are considered in Table 4 : positive family history ; a history of a broken home in youth and previous episodes of mental illness. There was a high incidence of positive family history for the entire series (50%), but such a history did not adversely influence the possibility of a good outcome. The experience of a broken home in youth was relatively common (37%) among this group of patients. The incidence in Group 1 appears to be much higher than in Group 2. Even so, it has to be stated that the information concerning Group 2 was not as complete and reliable as that about Group 1, and further studies are necessary.

Thirty-eight percent of the patients had had previous episodes of mental illness.

TABLE 4

Relationships Between Outcome of Illness and Family History of Mental Illness, History of Broken Home in Youth, and Previous Episodes of Mental Illness, According to Group

	OUTCOME	GROUP 1 (%)	GROUP 2 (%)	TOTAL FOR GROUPS (%)
Positive family history	Good	56 *	41	50 *
	Fair	50	59	56
	Poor		40	40
	Total	53	48	50
Broken homes	Good	63	17	43
	Fair	56	17	39
	Poor	40	20	27
	Total	57	18	38
Previous episodes of mental illness	Good	20	25	21
	Fair	50	48	49
	Poor	14	44	38
	Total	31	41	38

* For instance, of the 20 patients in Group 1 (see Table 3), who had a good outcome, 56 percent of these had a positive history; or, of the 32 patients in both groups who had a good outcome, 50 percent had such a positive history.

About 20% of those with a good outcome had such a history, while the incidence was approximately twice that much for patients with a poor outcome and even higher for patients who had a fair outcome. The apparently positive correlation between good outcome and low incidence of previous episodes is consistent with daily clinical experience. The paradoxical finding of a higher incidence of previous illness for those with fair than those with poor outcome can be resolved by further studies of⁹ larger groups.

Scrutiny of relationships between many of the other factors mentioned and the outcome of illness leaves us with comparably inconclusive information. The type or form of manifest clinical symptoms, pan-anxiety, pan-neurosis and chaotic sexuality, was not found to be significantly related to the outcome of the illness. There was, however, a correlation between quantitative differences in symptoms and outcome. There were differences in the number and the intensity of Group 1 patients' symptoms and those in Group 2. The latter had a larger number and wider variety of symptoms present at a given time. The relative dominance of the symptoms in the patient's hour-to-hour living was greater and many areas of behavior were affected. Thus, the associated disability in functioning was greater in Group 2 patients than in Group 1. This fact is implicit in the composition of the groups.

Those who were in the hospital at the time of initial contact obviously were more disabled than those in Group 1, who were ambulatory and first seen in clinics or private treatment. Functioning in the former group was grossly impaired in most or all areas of behavior. The Group 1 patients, in contrast, had symptoms and disability, yet were continuing to function. The functioning was maintained through great effort and in spite of anxiety and symptomatic defenses against it. Only occasionally did the functioning bring any measure of satisfaction or increased self-esteem, yet the patients pursued their ordinary activities and remained out of hospitals.

Primary clinical symptoms of pseudoneurotic schizophrenia: disorders of thinking and associations, disorders of emotional regulation and disorders of sensorimotor and autonomic functioning(3) were present in both groups. Such symptomatology was much more prominent and more readily detectable in Group 2 patients than among those of Group 1. All of these quantitative differences were reflected in the response to treatment and the outcome of the illness. The greater the quantity of symptoms, the less favorable the reaction to treatment and the outcome of the illness. The quantitation of these differences is obviously a clinical method since no other satisfactory technique has been devised.

A survey of the type, intensity and dura-

tion of treatment which these patients received presents numerous, complex problems. Data as to what kind of treatment was given, when, for how long and for what symptomatology—is most difficult to tabulate and appraise in a group of 109 patients. Nevertheless, we have adopted the hypothesis that the outcome of the illness must be a commentary on the treatment experiences of the patient. A wide range of forms and techniques of treatment was given to the patients who had good, fair and poor outcomes. The selection and application of treatment was influenced by the facilities available; the training, experience and skill of the psychiatrist; a variety of external circumstances: social, economic and geographic; and the patient's willingness to accept what was offered.

All the patients were reported to have received some type of psychotherapy, but there was great variation in the frequency, intensity and duration of the treatment. Many patients received some type of medication (barbiturate and amphetamine derivatives), usually as an adjuvant to psychotherapy. Some patients were given electroconvulsive treatment, ambulatory or coma treatment with insulin or a combination of these. Since the major part of our study was concluded before the newer psychopharmacological agents were available, their use does not figure in this report. Comments on their value in more recent treatment experiences will be reported at another time.

The data on the outcome of pseudoneurotic schizophrenia (Table 3) represent the results of conglomerate treatments. It is useless to speculate on what might have happened under other, perhaps more favorable circumstances of care and treatment. We believe that there are definite indications for various types of inpatient and outpatient treatment of people with this illness, including criteria for hospitalization and discharge and for modifications in psychotherapeutic technique.

In appraising the course of the treatment of a number of the patients, we gained the impression that treatment had often been "too little" or "too late" or both. This deficit was usually related to some of the issues already mentioned. A patient can receive

only the treatment which the psychiatrist is able to give and which he, the patient, is willing to accept. Such acceptance by the patient can be related to the training and experience of the psychiatrist in proposing and administering a given regimen of treatment. The best treatment can be given by a psychiatrist who is familiar with the psychodynamic frames of reference in psychotherapy and with the efficacy and use of somatic therapies. Especially important is a familiarity with the use of the newer pharmacological agents in conjunction with appropriate psychological treatment of these patients. One-sided approaches, either on a psychodynamic or a somatic level are not warranted. In evaluating each patient, one must determine to what extent the treatment approach should be psychotherapeutic, somatic or a combination of both. Furthermore, in different phases of the treatment, different therapeutic approaches may be necessary and a flexible adaptation of technique to the patient's condition is of paramount importance.

In some cases, it was apparent that the patient refused a certain type of treatment or discontinued all treatment when it would have benefited him to accept and continue. There were also instances of patients whose absolute or relative failure to cooperate was realistically motivated and they sought treatment elsewhere or were able to function reasonably well without further help. Another group was characterized by premature discharge from treatment on the basis of superficial gains, oscillations in the intensity of the symptomatology or a shift of symptoms—only to discover no significant change had been effected. A problematical group was the one in which a stalemate was reached in treatment. The patient had become able to function with less discomfort than before but had made no significant progress toward adequate functioning. This situation often continued for years because neither the therapist nor the patient had dared to request a termination or an objective evaluation of progress, such as that suggested by Oberndorf after 300 hours(5). Termination of treatment most often came about, under such circumstances, through economic fatigue on the part of the patient or emotional fatigue on

the part of the psychiatrist. Some of these patients would have benefited from another type of technique or adjuvant treatment. Some would have been able to function reasonably well if they had received a weekly or monthly "ego-transfusion," a situation in which the therapeutic session is roughly analogous to the periodic blood transfusion that sustains certain chronically anemic patients. Precedent for sustaining a patient in this manner is firmly established in medical practice. To do so is both an obligation and a triumph. Specialists in other fields of medicine focus on patients' functioning relatively free of symptoms and rarely speak of "curing." They do not repudiate patients who fail to respond to a given program of treatment; they question the program, not the patient.

A small minority of the patients in our series were apparently inaccessible to all forms of appropriate treatment and pursued a downhill course.

There were a number of patients who had a good or fair outcome, following the application of various types of treatment. Such effectual treatment ranged from that which might be regarded as minimal, in terms of duration and intensity, to a protracted period of intensive treatment. However, the gains appeared to be solidly established when these patients were seen in the follow-up interviews.

Our survey of the outcome of illness leads us to conclude that there is no formula for recommending a specific treatment program that will insure a favorable outcome. Rather, the treatment must be tailored to the individual needs of the patient at a given time, with emphasis on frequent evaluation of his current status and on flexibility in selecting means to expedite his progress. Intensive study of one or two patients who have this type of illness can lead to a ready explanation of the origin of the illness and the outcome of treatment. Certain isolated aspects of the environmental vicissitudes and certain reactive attitudes of the patient can be focussed upon and the illness attributed to these. Such factors can be formulated in any of several frames of reference and the cause of the illness may be stated as obvious. Unfortunately, many of these dynamic formulations do little more

than paraphrase a descriptive appraisal of the patient's personality development and his present illness. The outcome of the patient's illness and treatment is sometimes declared to be closely related to the patient's "accepting" the therapist's formulation. Good outcome is correlated with acceptance and fair or poor outcome, with half-hearted acceptance or refusal and denial.

This study undertakes the investigation of a larger number of patients and the variety of their symptoms, the variable prominence and oscillations of symptoms and a 5-20 year review of the health and functioning of these patients. The results emphasize the necessity for appraisal of the illness of each patient and the formulation of an effectual treatment program. The medical task precludes the intrusion of universal formulas and ritualized therapeutic programs.

SUMMARY

1. This is a 5-20 year follow-up report of the course and outcome of 109 patients with pseudoneurotic schizophrenia, 60% seen initially at Psychiatric Institute and 40% in clinics or private practice.

2. About two-fifths of these patients had had previous episodes of mental illness (inpatients : 42%; ambulatory patients : 31%).

3. There appeared to be a high incidence of a life-long history of illness, though age at onset is difficult to determine. There was a striking concentration of patients in the third (50%) and fourth (25%) decades at the time of beginning treatment.

4. There was a significant incidence of subsequent hospitalization following initial contact : approximately 40% of the entire group was hospitalized 1-9 times (11% of Group 1 and 56% of Group 2).

5. Ten percent of the patients attempted suicide but only 2 patients died by suicide. There were no other deaths in this series.

6. Approximately 20% of the patients developed overt schizophrenic symptomatology at some time during the follow-up period, but half of these (10%) had a remission. Thus 10% who originally had the pseudoneurotic form of schizophrenia developed chronic forms of schizophrenia with the typical catatonic, paranoid and occasionally

hebephrenic symptomatology.

7. At the time of the follow-up study, about one-third of all the patients were found to have a good, fair and poor outcome, respectively. In Group 1, 44% of the patients had a good outcome and another 40% had a fair outcome. In Group 2, one-fifth of the patients were rated as having a good outcome and 40%, a fair outcome.

8. Efforts were made to correlate outcome with various factors, ranging from family history of mental illness, through environmental vicissitudes, reactivity to stimuli, precipitating factors leading to disability, to type of treatment. There was evidence of some correlation with precipitating factor and type of treatment.

9. Forthcoming reports on the development of pseudoneurotic schizophrenia and different approaches to treatment are mentioned and the need for further, more extensive studies of this syndrome is noted.

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FAMILY CARE AFTER A THOUSAND YEARS—A CRISIS IN THE TRADITION OF ST. DYMPHNA¹

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HISTORICAL PERSPECTIVES

The legendary origin of the world's oldest colony for the family care of mental patients concerns the beautiful Irish princess Dymphna who lived in 700 A.D. In an attempt to escape the incestuous advances of her royal father, she fled to Belgium with her confessor. Her father overtook her in Geel, a little Flemish community not far from Antwerp, and summarily decapitated her.

Unaccustomed to a madness of such majestic proportions, the people of Geel preserved Dymphna's body as something of a curiosity, which began to attract visitors from neighboring villages. Gradually the remains of the innocent victim of her father's insanity became invested with magical significance for the mentally ill, and during the next hundred years visits of the curious were replaced by pilgrimages of possessed patients. Dymphna had become a saint.

A church and a series of annexes for housing pilgrims were built. In the healing ritual, the priest first hung a clay amulet engraved with some letters of Dymphna's name about the neck of the patient. The patient then crept on his hands and knees under the reliquary containing the bones of the martyred princess, and was exorcised of the devil causing his insanity. The effectiveness of this regimen is attested by records that go back to the 13th century which often show, next to the names of the pilgrims, the words: "and the evil spirit departed." Although the 13th century psychiatric classification used the moral terms "possessed" and "innocent," the word over the annex to the church of St. Dymphna was "zieckenkamer," which means "sick-room." This is probably the first instance since clas-

sical times that the word "sick" was used in reference to mental abnormalities.

By 1250, the date of the earliest extant record, the tradition of family care had taken firm root in Geel. Presumably the tradition had arisen as the story of the curative powers of St. Dymphna attracted so many pilgrims that the annex could not accommodate them and the Geelose responded to their need of housing by taking the pilgrims into their homes. The official care of the patients continued to be the responsibility of the church, and nursing care was administered by nuns until the 19th century when, under the influence of Napoleon's bureaucratic policy and anticlericalism, the control of the colony was transferred to the French Imperial government. After the boundaries of Belgium were re-established by the Congress of Vienna, the colony was maintained by the municipal government until 1852, when it was placed under the Department of Justice of the Belgian government. It has since been known as the "rijkskolonie" or colony of the state.

In 1821 Esquirol visited Geel and spoke encouragingly of family care but insisted that the central hospital facilities were entirely inadequate. As a result new buildings which have a capacity for 300 patients were constructed on the present site. Between 1860 and 1940 the number of patients in family care grew from 800 to 3700. Since the war, however, new admissions have been discouraged by the authorities in charge of state hospitals, and the patients have steadily declined to 2400. The decline is continuing and, unless present administrative policies change, the future of family care at Geel is precarious, and the colony presumably will be closed in several years. While it still is viable, however, it deserves a careful appraisal. What is the meaning of its decline in a period of increasing enthusiasm for family care as one of a group of promising transitional methods of convalescent treatment? What medical, social,

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economic or political facets of the Geel story are applicable to family care in the United States?

GEEL TODAY

Geel is a predominantly agricultural community of 20,000 located about 40 minutes from Antwerp by train or auto. The majority of inhabitants live on small farms which yield only enough to satisfy the basic needs of the family. The atmosphere in the town is conditioned by many years of exposure to mental patients. The patients, comprising a tenth of the population, are not treated as a separate class. I have seen coffee served in a cafe with as much deference to actively hallucinating psychotics as to anyone else. There are two movie theaters in the town and on a Sunday evening there are as many patients as townspeople in them. I never saw any revulsion or fear displayed towards patients, although many of them act in a bizarre fashion. About a half dozen incidents of violence have occurred in the past 25 years, two of which resulted in fatalities. Although these were no secret to the populace there was no outcry for more controls. An average of 2 patients a year are involved in automobile accidents, representing, according to police files, a somewhat better record than that of the townspeople. There are about 3 suicides a year among the patients, a rate proportional to that of the other state mental institutions in Belgium.

The standards for selection of foster families are extremely flexible despite an impressive list of criteria in the book of regulations. In practice no more than a room with minimum dimensions and a window for each patient is required. Plumbing is a rare luxury although electricity and bottled gas are now found throughout. A peasant's house often has a thatched roof and a floor of brick and dirt. The main living and dining room, customarily the only heated room in the house, opens on to the bedrooms, an equivalent of a kitchen, and the cowbarn. Privacy has little meaning to the Flemish peasant; doors are rarely locked or knocked at. Often the only decorations are religious icons, usually including a statue or picture of St. Dymphna.

Before the current constricting regula-

tions were imposed upon it, the colony had about 300 admissions a year and between 150 and 200 discharges. In 1960 there were 2100 patients in family care and another 300 in the hospital. In 1959, 141 patients were discharged, 82 by death of which 78 were natural and 4 accidental; 15 were transferred to other institutions presumably because of inability to adapt to family care. Of the remainder, none was discharged as cured, 33 were considered "ameliorated" and 10 "unchanged."

Although the majority of patients are from Belgium and Holland, many are from other parts of Europe and a few from Algiers, United States, New Zealand, and other remote areas. Most of the patients have been in institutions once or more and have been transferred or admitted to Geel at the instigation of an interested physician or family member who has heard of the colony. The majority, who are enjoying the degree of freedom and activity that Geel offers, otherwise would be in the chronic wards of custodial hospitals.

Approximately a third of the patients are women. Most are middle-aged, and some have been there for more than 50 years. There are about 150 minors, some as young as 5 years. Only 6% are supported by their families, at a cost varying with their ability to pay and averaging between \$50 and \$100 a month. For a paying patient, the foster home may receive \$2.00 a day or more. The remaining patients are indigents whose expenses are covered entirely by the state. The amount of money allotted to a foster family for the upkeep of a patient (between 30¢ and \$1.20 a day) depends on the patient's ability to contribute to the comfort or income of the family by working in the fields, in the family business, or in the home. Most families have a maximum of 2 patients permitted by the colony.

When there were new admissions, diagnoses were made after a brief interview by the social worker or staff member or as the patient was seen on rounds during a 5-day initial hospitalization. Fifty-five percent of the patients in 1959 were diagnosed as mentally deficient, 29% schizophrenic, 4% psychopathic personality, 2% manic-depressive and another 2% general parietic. The remaining categories included paranoia, arterioscle-

rotic dementia, epilepsy and involutional psychosis.

The current director, Dr. Hadelin Rademaekers, believes that maximum benefit can be obtained from family care when the patient is completely integrated within the foster family and when their cares and diversions are felt as his own. Dr. Rademaekers is convinced that cases formerly considered hopeless have shown definite improvement on a regimen of family care alone. He is due for retirement in 1962, and three of the other four doctors are in their late fifties. Although Geel is not a rehabilitation center in the modern sense of the word, the physicians on Dr. Rademaekers' staff recognize that for many patients the life in the colony is more pleasant than in a closed institution.

Each of three staff psychiatrists is responsible for a geographical section of Geel containing about 600 patients. The fourth has a smaller section and is also in charge of the approximately 300 patients within the hospital. Each physician is expected to see all his patients at least once a month, and his visits, rarely lasting more than 5 minutes, occupy most of his official time.

Tranquilizers are freely prescribed, and their use often must be left to the discretion of the foster parent. Electroconvulsive therapy is rarely given and there is no time or resources for psychotherapy, group therapy or occupational therapy beyond the equivalents offered in the foster homes. Since patients who have been drinking heavily or who have been destructive or uncooperative are threatened with a return to the hospital, hospitalization is looked upon by most patients as a punishment. This attitude, along with the overcrowding and the locked doors, makes it difficult to give the central hospital a therapeutic atmosphere.

Placements are flexible and made primarily by trial and error. If a patient is evidently making a poor adaptation despite tranquilization, he is simply placed in another family. There have always been more foster homes than patients to fill them so that placements can be repeatedly changed until patient and family are satisfactorily matched. It is possible for a patient to be moved 20 or 30 times before he finally finds a situation appropriate to his needs. Once

this home is found the patient may remain for 20 or more years. On the other hand it is not rare that a patient who has been with a family for many years abruptly falls out of step with it or becomes agitated, and a new placement must be found. Flexibility of foster placements is part of the tradition so that families rarely feel any compunctions about returning a patient. Some patients, however, have been with families for so long that they have become virtually family members, and may be passed on to the children of the families which had originally accepted them. There are therefore a good many adults in Geel who have lived all their lives with the same patient.

A SURVEY OF FOSTER FAMILIES

I (M.D.) went to Geel for two months in the summer of 1960 knowing that the colony was declining and believing that its decline was due to changing cultural patterns and the consequent inability of the colony to find families who would accept patients in foster care. In an effort to get more specific reasons for the presumed decline in availability of foster homes, I had planned a comparative study of families who had dropped out of the program and families who were still participating. To my surprise, I found that there has been no over-all decrease in interested families and I could find only 47 families who were once in the program but had dropped out. I interviewed these families and a random sample of 46 families who have continued to accept patients. The interview data are recorded in Table 1.

The family groups are similar on both sides, although families who have continued appeared more closely knit, as indicated by the higher percentage of continuing families with 3 generations in the home. Relatively more farmers and white collar workers appear in the continuing families, while there are more professionals, entrepreneurs and pensioners in the drop-out group. The higher incidence of pensioners is due to the greater number of older people in this group.

As reasons for originally accepting patients, more of the continuing families than the drop-outs gave such answers as: "It is the custom here," "It is the thing to do in

TABLE 1

	FAMILIES WHICH HAVE CONTINUED TO ACCEPT PATIENTS	FAMILIES WHICH ARE NO LONGER ACCEPTING PATIENTS
Mean number of family members	4.2	4.1
Median number of family members	2	3-4
% of families with 3 generations in the home	13.1%	8.5%
% of families with 2 generations	60.8%	68.1%
% of families with 1 generation	26.1%	23.4%
% of rural houses	36.9%	34.8%
% of urban houses	28.3%	34.8%
% of suburban houses	34.8%	30.4%
Occupations of chief wage earners :		
Laborers	34.8%	37.7%
Farmers	28.3%	13.3%
Entrepreneurs	13.1%	17.7%
White collar workers	10.8%	4.4%
Pensioners	8.7%	15.5%
Professionals	4.3%	11.1%
Stated reasons for having accepted patients originally :		
Custom	34.3%	20.0%
Money	21.4%	24.0%
To help with work	20.0%	36.0%
Patients inherited from parents	11.4%	12.0%
Compassion	4.2%	4.0%
Desire for companionship	4.2%	2.0%
Wanted children	4.2%	0
Requested by staff members	0	4.0%
Stated reasons for having dropped out of the program :		
Too old		24.0%
Too much trouble		22.0%
Not enough room		20.0%
Does not pay enough		12.0%
Fear of incidents		10.0%
No present need for help		4.0%
No present need for money		4.0%
Bad for business		2.0%
All family members work		2.0%
Parents of both husband and wife of this family had patients in their homes	78.3%	56.5%
Only parents of wife had patients	10.8%	10.8%
Only parents of husband had patients	6.5%	15.2%
Neither set of parents had patients	4.3%	17.4%
Mean of total number of patients nursed by each family	4.2	3.9
Median of total number of patients	1	1
% of patients in classes 1, 2 and 3	44.4%	45.1%
% of patients in classes 4, 5 and P	55.6%	54.9%
% of current (or last) patients who have had to return to the hospital more than twice during their stay in the home	12.6%	26.5%
10% of families with patients would not take another patient when the present had left		
Another 9% was undecided. The remainder would con- tinue with other patients		
All families questioned were satisfied with the super- vision of the colony		

Geel." Drop out families more often responded in terms of money or work. Their most frequently stated reasons were age, lack of room, and "too much trouble." In twice as many drop-out families as continuing families the last patient required hospitalization 3 or more times during his stay in the home, suggesting that management problems played a part in discontinuance. The significance of tradition is suggested by the finding that more parents of continuing families than parents of drop-out families had patients in their own homes.

In summary, a family tradition of patient care, rural location, farm or white collar work of modest income, family solidarity, and tractable patients appear to be factors encouraging families to continue to accept patients. More than 80% of the families now caring for patients stated that they would accept another if the current patient were to die or to leave. Apparently, despite a steadily rising standard of living, the inroads of an industrial civilization, and static levels of remuneration, the tradition is not dying out and would persist if allowed to. For other reasons, however, the Geel colony may be doomed. Its ultimate demise would have little effect on the advance of mental rehabilitation and social psychiatry, as family care in Geel is basically a tradition on which psychiatry only lately has been superimposed. The momentum of the tradition has been maintained neither through psychiatry nor through its magical source in St. Dymphna but through the Geelose themselves who know that mental patients are not dangerous. The danger is that a thousand-year-old living monument may be destroyed at the moment the world is recognizing its significance.

DISCUSSION

ROBERT T. HEWITT, M.D. (Boulder, Colo.).—To generations of psychiatrists Geel has served as an image of the humanitarian and compassionate care of mentally ill people. Being the original family care program, it has also served as an inspiration if not a model for family care programs in Europe and North America. Viewed from afar, programs take on a halo effect, while the neighbors view them more realistically and with less reverence.

If we look at Geel, as described by the

authors, through the eyes of western psychiatry certain impressions are gained:

1. The diagnostic procedures seem inadequate for anything but a social differentiation.

2. Treatment seems inadequate. This is custodial care with some partially supervised drug therapy. The hospital seems inadequate in size and is seriously over-crowded and locked.

3. Orientation in the colony does not appear to be directed toward rehabilitation but rather toward resignation to patient disability.

4. Return to hospital is apparently used as a threat in the case of adverse behavior. Hospitalization is thought of by patients as punishment rather than as therapeutic.

We do not know what the reasons are for the "steady decline" reported in resident patients from 3700 in 1940 to 2400 at present. The strangling effect of the ruling of 1958 (Dr. Rademaekers must take personal responsibility for all admissions) will probably, if not altered, result in the closing of the colony. However, it still seems that the colony was in a decline before that. Also before the constricting regulations were imposed, the author reports that there were about 300 admissions and between 150 and 200 discharges per year. According to these data, the colony should have been accumulating patients but actually the resident patient load was falling.

Has the gradual decline in patients been a result of falling off in referrals? Has official policy prior to 1958 forced a decline? Is it possible that Geel, like some of our programs, rested on its laurels and stood still while in the rest of the world care, treatment, and rehabilitation of the mentally ill have moved forward?

In many countries at the present time family care is looked upon as one link in the chain of care, treatment, and rehabilitation, as contrasted with Geel where it is apparently looked upon as appropriate for all patients except those needing closed hospital treatment. Other countries using family care see it as a valuable adjunct to treatment. These patients usually have no home of their own to go to or for some reason a home placement is inappropriate for the family or the individual patient. In some cases it resolves into a more or less permanent placement and in others a temporary placement as the patient proceeds to more independent living.

At Bielen, Holland, there is a family program, where patients are admitted to a central hospital of 100 beds and are studied and a diagnosis made and a treatment and rehabili-

tation program planned. Patients are placed in families if this is appropriate. Rehabilitation is the goal. About 300 patients are carried in family care in homes within walking distance of the hospital. They go to the hospital daily where they engage in industrial pursuits, occupational therapy, or maintenance work. This is thought to be analogous to living at home and working at the factory or office.

The first family care program in the United States was in Massachusetts in 1885. Development of family care in public mental hospitals in the U. S. has been slow. In 1950 there were approximately 4900 patients in family care and in 1960 this increased to 9600 in public mental hospitals. The Veterans Administration program has developed more rapidly. Beginning in 1950 it is up to 3000 or 4000 placements at the present time. The program in family care has really been activated in only about 10 states. More and more consideration is being given to the relationship of family care to day hospitals, halfway houses, and rehabilitation workshops where work supervision is available for family care patients. When psychiatric treatment is required, they are returned to the hospital.

Two studies carried on in Veteran Administration hospitals throw some light on outcomes in family placement and on predictability and adjustment of the patient in family care :

Ullman and Beckman, Palo Alto V. A. Hospital, in the *Journal of Social Work*, April 1959, studied patient adjustment not only from the point of view of the goal of remaining out of the hospital but also the goal of reaching independent living outside of family care. They found that in predicting outcome of adjustment

of patients the three main factors were : amount of hospitalization ; type of ward ; and number of admissions.

Patients with the longest hospital residence were more likely to continue in the family care home and not go on to independent living than those with shorter hospital residence. Patients from poor wards were more likely to continue in the family care home than to proceed to independent living. Patients with the greatest number of admissions in the past were more likely to remain in the family care home than to go on to independent living. They also found that some patients remained in the family care home for such a short time that it could not be considered to be a rehabilitative placement.

Lyle and Train, American Lake Hospital, in *Social Work*, January 1961, found that the important factors leading to good adjustment in a family care home were : 1. Age ; patients over 40, particularly those from 60 to 69 made the best adjustment ; 2. Patients hospitalized more than 10 years made a better adjustment than those hospitalized for a shorter period ; 3. Patients showing a capacity to relate to someone adjusted better ; 4. Patients having shown predictable behavior of a non-erratic nature were more likely to make a better adjustment ; 5. Patients showing lack of initiative and drive toward change.

These investigators found that patients changed in the foster home whether they adjusted to it or not. Patients became more alert and active ; more interested in their surroundings ; posture, expression, and bearing changed markedly. It was felt that these were due to the stimulating effect of foster care.

AUDITORY STUDIES IN SCHIZOPHRENIA¹

ARNOLD M. LUDWIG, M.D., BENJAMIN S. WOOD, JR., M.D.,
AND MARION P. DOWNS, M.A.²

This pilot study was initiated for the purpose of investigating the auditory behavior of schizophrenics. The investigators sought to determine whether the hearing acuity of the schizophrenic differed in any way from normal and whether the presence of auditory hallucinations might be correlated with any such differences. In addition, a preliminary attempt was made, through the use of several audiological procedures, to assess the schizophrenic's auditory perceptual apparatus.

Prior work in this field has been scanty and inconclusive. Travis(1), in 1924, described a rise in auditory threshold in dementia praecox patients while crystal gazing compared to psychoneurotics, whereas Bartlett(2) somewhat later found no appreciable difference in auditory acuity between dementia praecox patients and normals. More recently, Camp(3) tested the ability of schizophrenics to distinguish a signal word from background noise and found that paranoid schizophrenics showed a greater impairment in test performance than most of the other groups tested. Studies of a different nature, such as the use of the delayed auditory feedback test, have been employed by Goldfarb and Braunstein(4) on schizophrenic children, while Bergman and Escalona(5) have made some interesting observations on psychotic children who displayed unusual sensitivities to stimuli of various sensory modalities.

METHOD

Sixty-six schizophrenic subjects were selected at random from the inpatient population of Colorado Psychopathic Hospital over a 10-month period and tested very soon after admission. Twelve subjects were eliminated for a variety of reasons, including questionable diagnosis, failure to cooperate, questionable or diagnosed ear

pathology. The remaining 54 subjects were then classified into one of the 3 following groups: (a) those who showed auditory hallucinations at the time of admission; (b) those who had auditory hallucinations in the past only; and (c) those who gave no evidence of ever having had auditory hallucinations.

A control group of 54 subjects was selected at random from all categories of hospital personnel. The characteristics of the control group and the 3 schizophrenic groups, relating to sex and age distribution, as well as the distribution of the diagnostic subgroups in the case of schizophrenics, are summarized in Table 1.

Five audiometric tests were used: 1. The pure tone threshold (PT); 2. The speech reception threshold (SRT); 3. The tone decay test (TDT); 4. The audio-delay or delayed auditory feedback test (AD); and 5. The signal-to-noise ratio (S/N).

The procedure and experimental conditions were approximately constant for all subjects, testing being carried out in a double-walled, sound-isolated room by the same experimenter. A Beltone 15 B Audiometer was used to test pure tone hearing according to AMA accepted audiometric procedure(6). The measure of pure tone threshold was taken as the average of the threshold readings at frequencies of 500, 1000 and 2000 cycles per second, recorded for each ear separately. The audiometric calibration was checked weekly with an Allison audiometer-calibration unit.

Speech reception threshold was measured as the lowest sound intensity at which subjects could distinguish spoken words with 50% accuracy in each ear. A Grason-Stadler Speech Audiometer was used in conjunction with C.I.D. W-2 recordings of phonetically-balanced Spondee words, according to the standardized technique for measuring this threshold(7).

The tone decay test was carried out with the procedure described by Carhart(8). In this test, a threshold tone is presented to

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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TABLE 1: SAMPLE CHARACTERISTICS

		Sex		Age	Mean	Type Schizophrenic Reaction								
Groups	No.	M	F	Range	Age									
Controls	54	15	39	21-56	32.0	paranoid	undifferentiated	schizo-affective	catatonic	hebephrenic	simple	mixed	unknown	childhood
Present Hallucinations	22	9	13	16-43	29.5	15	2	2	1	1	1	0	0	0
Past Hallucinations	9	4	5	15-56	37.6	5	1	1	0	0	0	1	1	0
No Hallucinations	23	12	11	14-49	28.6	16	2	1	0	0	2	1	0	1

the subject for 1 minute, the subject designating when he no longer hears the sound. If the tone appears to fade before the minute is up, it is raised by 5 db increments until the subject can "hold" the tone for a full minute. Test performance was recorded as being either "normal" or "abnormal." Normal was defined as the ability to "hold" a tone for a full minute either at threshold or 5 db above threshold, while an abnormal response was recorded whenever the tone had to be raised more than 5 db above threshold in order for the subject to hear the tone for the required minute. The frequencies 500, 2000 and 4000 cps were selected for the study. Since the 4000 cps frequency has been found in other studies (9) to be an unreliable indicator of ear pathology, the present investigators distinguished between subjects showing abnormalities in any of the 3 frequencies and those showing abnormalities in either or both of the 2 lower frequencies.

In the delayed auditory feedback test the subjects were given emotionally neutral fourth-grade reading material and instructed to read a short passage through twice, the first time reading it through as well as possible without auditory feedback, the second time with their voices returned through earphones at a 70 db sensation level with a 0.2 second delay. The difference in seconds between these two readings was

used as the measure of the effect of the auditory feedback on reading time.

The signal-to-noise ratio has been considered a means of measuring the subject's acoustic ability to distinguish figure from ground (3). In this test standardized Spondee words, employed as a signal, were played at a constant volume of 30 db above each subject's speech threshold, while speech noise was gradually introduced at 2 db increments until the subject could no longer repeat the words. The point at which the subject could no longer distinguish between the signal words and the speech noise was used as the measure.

RESULTS

The results of each test for each group of subjects are tabulated in Table 2. Inspection of the values obtained for the PT and SRT reveals fairly close agreement among all groups. This impression was confirmed on statistical analysis: no significant mean differences were demonstrated among any of the 3 schizophrenic groups or between the total schizophrenics and the controls. These results are, moreover, generally comparable to the mean values for the PT and SRT obtained in the Wisconsin Survey of 1954 (10).

Audio-delay responses, however, revealed rather striking findings. A plot of the frequency distribution of the individual values

TABLE II: TABULATION OF RESULTS

	PT (db)		SRT (db)		TDT (% abnormal)		AD	S/N
	right	left	right	left	500-2000- 4000cps	500- 2000cps		
AH	21 -8.1	20 -8.6	21 +2.7	20 +2.3	19 74%	19 58%	12 +44.9	16 +8.1
NH	22 -6.1	20 -7.0	23 +0.5	20 +0.6	23 74%	23 48%	13 +42.0	20 +8.1
PH	9 -3.4	9 -3.8	9 +3.4	9 +1.9	9 67%	9 67%	4 +26.5	8 +8.8
TS	52 -6.4	49 -7.3	53 +1.9	49 +1.4	51 71%	51 55%	29 +41.0	44 +8.2
C	21 -6.9	21 -8.1	25 +0.9	25 +2.8	20 50%	20 10%	27 +54.3	28 +13.6

Key: AH=present hallucinations; NH=no hallucinations; PH=hallucinations in past only; TS=total schizophrenic group; C=control group. In each square no. of subjects is listed in upper left-hand corner, mean value in center.

of the total schizophrenics compared to the control group demonstrated a bimodality of the schizophrenic responses with the median of the control responses falling in the valley between the two schizophrenic peaks (see Fig. 1). On subjecting these distributions

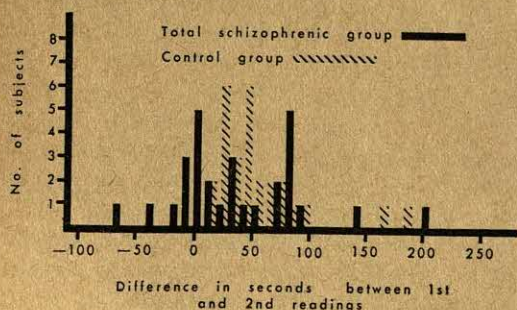


Fig. 1: AUDIO-DELAY DISTRIBUTIONS

to read the same passage. Of the total schizophrenic group, 38% seemed relatively unaffected in their reading time under conditions of delayed feedback, and what seems more remarkable, 55% of this same group actually read the test passage in a shorter time than it took them to read the same passage with no auditory interference. In contrast, all of the control subjects were affected by the audio-delay to some extent, this being demonstrated by the relative slowing in their reading rates.

Significant findings were found also in the TDT test. When abnormal responses at any of the 3 frequencies were analyzed, no significant differences between schizophrenics and controls were found. However, when the unreliable 4000 cps frequency was eliminated, there were 55% abnormal schizophrenic and 10% abnormal control responses on either of the remaining two frequencies, and chi square analysis for these latter values indicated extreme significance with p less than .001. Additional analysis, comparing TDT to AD performance on a scattergraph, failed to reveal any suggestive correlations.

to a Kolmogorov-Smirnov Two Sample Test analysis, it was found that the two distributions differed significantly at a p value of less than .01.

It thus appears that the schizophrenic patients reacted to delayed auditory feedback in essentially 2 different ways: they took either longer or less time than controls

Another interesting finding in the TDT was the observation that 39% of the schizophrenics could not detect the cessation of sound 10 seconds or more after its withdrawal, some subjects even claiming to hear the sound up to several minutes later. Since none of the control group displayed this behavior, the occurrence of this finding in the schizophrenic group was found to be of considerable significance (chi square equals 10.2; p less than .005). However, additional analysis revealed that this particular type of response bore no significant relationship to the previous type of TDT abnormality mentioned.

The results of the signal-to-noise ratio test revealed the most statistically significant differences between schizophrenics and controls. The obvious differences shown in Table 2 are graphically illustrated in Fig. 2,

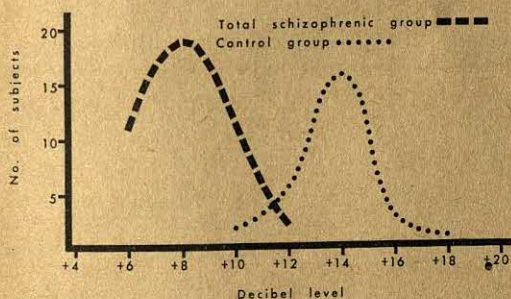


Fig. 2. SIGNAL-TO-NOISE RATIOS

where it can be seen that there is hardly any overlap in the distribution curves of the schizophrenic and control group responses. Comparison of these two sets of responses revealed an F value of 80.1, indicating that the probability of such an occurrence due to chance was less than .001.

It should be mentioned that in none of the 5 test categories could any significant differences be discovered in test performance among the 3 schizophrenic groups. In addition, an attempt to correlate the occurrence of two or more significantly abnormal test responses in the same subjects likewise proved fruitless. Scattergraphs for the age distributions for the 5 tests revealed relative homogeneity with approximately the same proportions of subjects showing abnormal responses in each decade. Also, the patients' final disposition appeared to

have no significant relationship to test results, those requiring long term hospital commitment being as evenly distributed as those who were released. Analysis of the diagnostic subgroupings of the schizophrenic patients was not undertaken as it was felt that the predominance of the paranoid group and the small numbers in the other groups would not lend themselves to valid statistical treatment and interpretation.

With regard to concurrent treatment of the hospitalized subjects, 33 of the 54 schizophrenics (61%) were found to be on some type of medication at the time of testing, 31 of whom received a phenothiazine type drug. A detailed statistical evaluation revealed that medication effects played no role in test performance.

In view of the highly significant differences between the schizophrenic responses and those of the controls to both the TDT and AD, a retrospective attempt was made to determine if any correlations could be found between test performance and the presence in schizophrenics of any common personality traits or symptom complexes. It was believed that the discovery of any common denominators in this respect might provide better clues as to the possible theoretical meaning of the observed differences, or at least point the way toward more fruitful exploration of any such factors through more specifically designed future experiments. The charts of the schizophrenics were reviewed independently by two of the authors, and each individual subject was evaluated with respect to certain characteristics, such as degree of withdrawal, aggressiveness, negativism, anxiety, affect disturbance, thought disorder and overt length of the disease process. Within the serious limitations of chart analysis, varying degrees of inter-rater reliability were obtained on the two separate ratings; however, none of these variables was found to have any significant relationship to test performance.

DISCUSSION

Despite the limitations inherent in the nature of any pilot study, these investigations have pointed up some interesting and significant features in the auditory performance of schizophrenics.

The results of the PT and SRT tests appear to indicate that the actual hearing acuity of hospitalized schizophrenic patients is approximately equal to that of the population at large. In addition, no quantitative differences in auditory acuity could be demonstrated between groups of hallucinating and non-hallucinating schizophrenics. The fact that schizophrenics could perform normally on these tests suggests that the subjects could function adequately under test conditions.

The behavior of the schizophrenics differed significantly from the controls in each of the 3 remaining tasks. In attempting to understand these differences, it should be recognized that the TDT, AD and S/N ratio tests all differed considerably from the others, both with respect to the nature of the test and the demands made by the test on the subjects. In all of these tests, the subjects were required to direct more attention to a complicated task for a longer period of time. Moreover, in the case of the AD and S/N tests, subjects were required to assimilate and integrate a barrage of conflicting auditory stimuli.

Despite the somewhat different nature of the task in these tests, an explanation of the real meaning and significance of these findings is not readily available. However, one might speculate on the theoretical possibility of an autonomic inhibitory action on the excitability of the hair cells to account for these results. Recent anatomical and neurophysiological work on cats lends support to this tentative hypothesis. Rasmussen(11) has traced efferent cochlear fibers in the cat from the contralateral olivary nucleus to supposedly the hair cells themselves, and there is suggestive evidence that a similar "olivo-cochlear bundle" is present in man. Galambos(12-14) has extensively studied the functions of this bundle and concluded that these fibers, when functioning, suppressed the expected inflow of auditory nerve activity to normal acoustic stimuli. By measuring the micropotentials of the auditory nerve in the cat, he found that the amplitude of the nerve's response to a click stimulus was significantly reduced if a barrage of impulses simultaneously arrived at the cochlea via the olivo-cochlear bundle.

It might be further postulated that this

pathway may be selectively utilized in some schizophrenics as a means of avoiding disturbing auditory stimuli. Activation of such a pathway possibly could represent a peripheral neurophysiological correlate of the defense mechanism of psychic denial. As Linn(15) holds, interference with perception facilitates denial and, conversely, the need to deny can result in functional disturbances of perception.

The combined use of denial and neural inhibition might explain some aspects of the schizophrenic's abnormal behavior on the TDT, AD and S/N tests, although it is not clear why some schizophrenics should be affected and others not. Furthermore, it is difficult to account for the fact that abnormal test performance on one test could not be correlated with abnormal performance on any other test or with clinical personality traits of the subjects. It is obvious that much more work is necessary, both at the neurophysiological and clinical levels, to elucidate the meaning of these results.

There are several limitations of this pilot study which should be considered. Subjects might have been tested several times during their hospitalization to note whether changes in test performance could be correlated with changes in their clinical status. Also, other diagnostic categories of hospitalized patients could have been included to determine the specificity of these findings in schizophrenia. A clinical evaluation of the subject's state of anxiety prior to and during test performance, as well as his utilization of the defense mechanism of denial, would be useful information to have, provided adequate measures of these variables can be devised. It is hoped that some of these difficulties can be remedied in future investigation.

CONCLUSIONS

1. The present findings indicate no significant difference in performance on the PT or SRT tests, either between schizophrenics in general and controls, or between hallucinating and non-hallucinating schizophrenics.

2. In response to conditions of delayed auditory feedback, schizophrenics as a group showed significantly different responses from controls. These responses in-

licated that the schizophrenics tended to be either more or less greatly affected than controls in their reading times.

3. Two types of abnormal responses to the TDT were found. First, schizophrenics in general showed significantly more rapid adaptation to given sound frequencies than controls. Since none of the subjects in this study revealed any evidence of gross hearing abnormality, this phenomenon cannot necessarily be considered as pathognomonic of cochlear or retrocochlear damage as previous studies on normals have indicated (8, 9, 16, 17). Second, the inability to detect withdrawal of the tone was observed in a large number of schizophrenics but not at all in controls, a finding which has not been previously described.

4. Schizophrenics showed significantly more difficulty in distinguishing a signal word from background noise compared with normals.

5. No significant intercorrelations could be demonstrated among the several abnormal test performances. Analysis of personality traits, as well as the use of drugs and necessity for long term hospitalization, did not appear to affect test performance.

SUMMARY

A pilot study was undertaken to evaluate some quantitative and qualitative aspects of schizophrenics' auditory behavior by means of 5 auditory tests. It was found that schizophrenics displayed completely normal auditory acuity on the pure tone and speech reception threshold tests, whereas they displayed significantly more abnormalities than controls on the tone decay, delayed auditory feedback and signal-to-noise ratio tests. There were no significant correlations between abnormal test function and other variables analyzed. The possibility of a peripheral neural inhibition working in conjunction with psychic denial was dis-

cussed as possible mechanisms accounting for these findings.

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PSYCHOLOGICAL AND BIOCHEMICAL SYNTHESSES OCCURRING DURING RECOVERY FROM PSYCHOSIS^{1, 2}

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The recovery from a psychotic disorder is marked by a transition from a disintegrated, fragmented and chaotic state to one which is more integrated, unified and orderly. These changes imply regrouping and putting together of functions, that is syntheses. The functions, as they are manifest in behavior, may be described in behavioral terms, but the steps taken in the reorganization of these functions in the nervous system, described in psychological terms, have been little studied. Similarly, nothing is known of the biochemical changes which might occur during such recovery. Recent studies in this laboratory (1-5) have been directed towards a better understanding of these phenomena.

With the development of new methods for the study of chemical constituents in the nervous system itself (6) it has been possible to demonstrate quantitative changes in these constituents occurring during recovery from psychosis which suggest preferential chemical syntheses. Evidence that psychological and biochemical changes occur in close temporal relationship in double-blind studies on patients will be presented. The hypothesis here considered is that these

changes, occurring during recovery from psychosis, represent syntheses, and that these are unitary syntheses of nervous system functions which may be open to description and understanding in both psychological and biochemical terms. That some experimental methods as illustrated here are now available for approaching these phenomena is encouraging; but the experimental evidence obtained with these methods must be clearly differentiated from the hypotheses arising therefrom, and the preliminary nature of these investigations recognized.

METHODS AND PATIENTS STUDIED

The neurochemical and clinical double-blind methods employed in these studies are described in detail elsewhere (1, 6). To the 24 cases with psychotic states previously reported in longitudinal studies (1) 33 cases are added in this report; total 57 cases. All have been selected at random for study by both clinical and chemical methods. The age range is from 17 to 61. Schizophrenic, affective, and mixed psychotic disorders are included. Both first and multiple admission cases are represented, as well as patients hospitalized constantly over many years. Twenty-eight of these patients were treated with various pharmacotherapies, 19 with EST, 3 combined EST and pharmacotherapy, and 7 no specific therapy.

TERMINOLOGY

One of the limitations in studying and discussing psychosis (or the psychotic state) lies in the indefiniteness of the descriptive terminology used. For instance, the tendency occurs to associate the psychotic state with particular personality types rather than to deal with it as a particular behavioral state with certain definable characteristics which may occur in all personality types. The current nosology (7) is subjected in its use to so much individual variation and interpretation that distinc-

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tive and comparable groups of patients in different geographic sites are difficult to identify and compare in different studies.

In an attempt to avoid semantic disorder and to characterize as accurately and reproducibly as possible the behavioral states, it would appear useful to indicate briefly those elements which are taken in this study to characterize and define the psychotic state (Table 1). These elements are those

TABLE 1
Some Characteristics of the Psychotic State

Symptoms and Signs	
1. Anxiety	Overt signs of extreme anxiety, fear, terror.
2. Rate of processes	Increased in excited or manic states, decreased in retarded or depressed states.
3. "Filtering" or regulation of sensory input	Increased in extreme withdrawal, decreased in manic reactions.
4. Mood	Extremes of hyper-elation and depression.
5. Organizing, focus—and continuity—ability	Disorganization, indecision, memory disturbances, fragmentation of thought.
6. Maintenance of ego boundaries	Failure to distinguish intra- from extrapersonal events, delusions, hallucinations.
7. Integration of intellectual and affective processes	Dissociation, inappropriateness between elements of behavior.
8. Drive for survival and gratification	Extreme isolation from supporting environment, ineffectiveness and inappropriateness of social action, self-destructiveness.

referred to in the ordinary clinical "mental status" appraisal of the patient's progress, and, for the most part, represent psychological functions or concepts in common usage. The elements are stated in a physiological frame of reference such that no element is foreign to the normal state of psychological functioning but simply is represented in psychosis by an extreme over- or under-exaggeration of the mean. This leaves open the assignment of limits to the mean within particular situational and cultural contexts but makes the extreme positions more readily agreed upon and therefore more readily studied. In addition, it permits clarification and specification in the use of such terms as "improved" which, as now employed, may simply mean for example that a hyperactive process of a given patient, perhaps annoying to the ward personnel, has been replaced by hypoactivity (perhaps in itself extreme) without significant change in any of the other features of the psychotic state. The terms "no change," "slight," "moderate" or "marked" improvement are here used to refer to

marked changes toward the mean in none, approximately one-quarter, one-half or all respectively of the eight items listed, unless otherwise specified. With "worsening," this yields a 5-position scale. More adequate quantitative measurement of these changes is unfortunately not yet in use but is being sought.

The terms schizophrenia, manic-depressive, *etc.*, are employed in the classical descriptive usage(7) in terms of personality characteristics observable at the time of examination and observed in the patient's history. These terms are independent of those used in the description of passage to and from the psychotic state since, for example, it is clear in this frame of reference that the schizophrenic patient is not always psychotic, and that recovery from the psychotic episode does not necessarily imply changes in the "style" of personality functioning of the patient which led to the use of the descriptive term schizophrenia. Finally, the limitations of terms such as schizophrenia even when used in the personality descriptive sense are well recognized. In the majority of psychiatric patients the predominance of different groups of defenses and different "styles" of functioning characterize different periods of their lives. For these patients this part of the "diagnosis" may indeed shift. Nevertheless, the terms remain useful in a research protocol when employed to describe the current mode of functioning of the patient. For a minority of patients, in addition, the passage into adolescence, maturity, and senescence sees no essential change in markedly disordered personality structure, and descriptive terms such as schizophrenia remain constant and appropriate. It is these small, clear-cut groups which offer the best opportunity for reproducible study, and it is with these that most of our studies are concerned.

The susceptibility to occurrence and recurrence of the psychotic state is probably a feature which can be separated at least partially from the personality characteristics of a given "classical" descriptive group and may well have more primary relevance to the occurrence of and recovery from the psychotic state as here defined. This factor of susceptibility to psychosis is probably related to abnormal lability in the regulatory

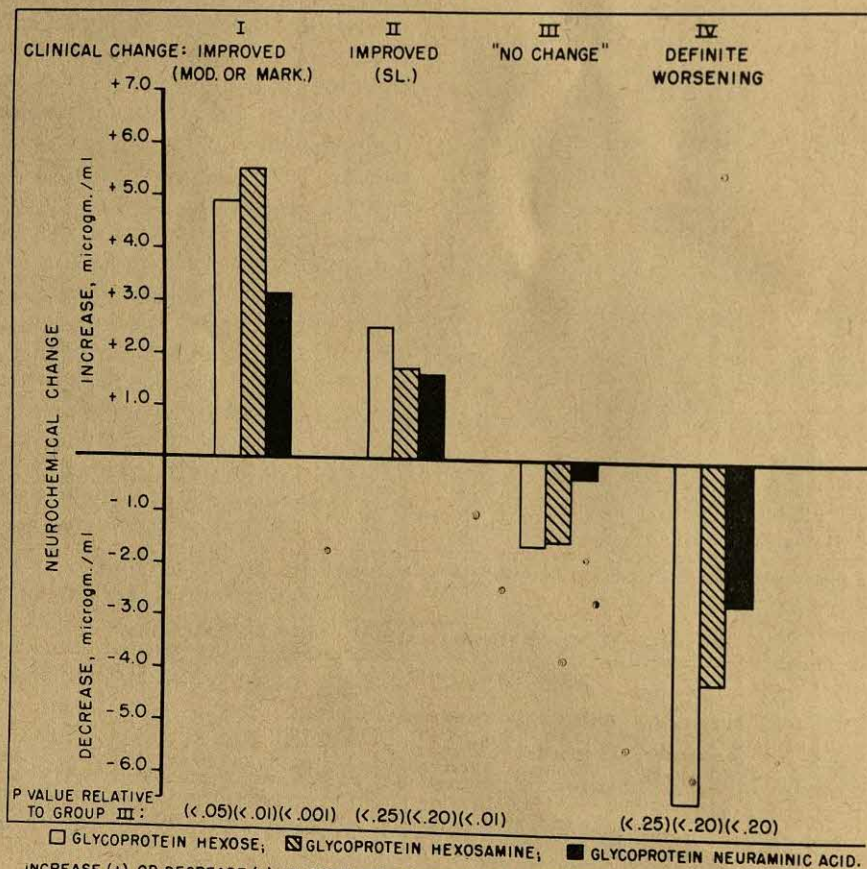
processes for the eight items listed, but cannot be usefully further defined in the present state of knowledge. It is simply noted as one further area, probably of considerable importance, for which our knowledge is meager.

RESULTS

Figure 1 shows the relationship of increase or decrease in absolute amounts of CSF glycoprotein constituents in 65 in-

each of three constituents in the cases of moderate and marked improvement, and for neuraminic acid in the cases of slight improvement. (P values in Table 1 refer to comparison with values in "no change" group.) In cases where no significant clinical change was reported in these double-blind studies, there was a tendency for glycoprotein hexose and hexosamine to be somewhat lowered suggestive of slight worsening in at least some of these patients.

FIGURE 1 *



INCREASE (+) OR DECREASE (-) IN ABSOLUTE AMOUNTS OF GLYCOPROTEIN CONSTITUENTS IN 65 INSTANCES OF IMPROVEMENT, "NO CHANGE," OR WORSENING IN THE CLINICAL STATUS OF 47 SCHIZOPHRENIC PATIENTS DURING ENTRY INTO AND RECOVERY FROM A PSYCHOTIC STATE.

* With a correction for small numbers, three of the p values change as follows: Group IV neuraminic acid $p < .01$; Group II neuraminic acid $p < .005$; Group IV hexosamine $p < .40$.

stances of improvement, worsening and no change in 47 schizophrenic patients examined in longitudinal studies to date (see Tables 2-4, and paper I(1) for remainder of the data; 173 clinical and chemical evaluations on 57 patients).

It is clear from the data in Figure 1 that a significant correlation exists for changes in

Group I (improved) and IV (worsened) differ markedly in concentration of both neuraminic acid and of hexosamine ($p < .001$) and of hexose ($p < .01$). Not shown in Figure 1 is that early samples in cases concluding with moderate or marked improvement demonstrated even higher values of hexose $M = +4.32 (\pm 2.71)$ and of hexosa-

mine $M = +7.72 (\pm 5.63)$ than those present later when neuraminic acid was at its height. This is again suggestive that hexose

and hexosamine may be considered as precursors for the synthesis of neuraminic acid (2).

TABLE 2
Neurochemical Changes in Patients Demonstrating Moderate or Marked Clinical Improvement

CASE NO.	DATE	NEUROCHEMICAL DATA				CLINICAL DATA	
		Total Cerebrospinal-Fluid Glycoprotein (Fraction G) mg./ml.	Cerebrospinal-Fluid Glycoprotein Hexose microgm./ml.	Cerebrospinal-Fluid Glycoprotein Hexosamine microgm./ml.	Cerebrospinal-Fluid Glycoprotein Neuraminic Acid microgm./ml.	Treatment Instituted	Clinical Status
173	11/19/57	0.084	—	6.6	2.4	Prochlor-perazine	Schiz. ch.
	12/17/57	0.176	13.4	7.3	4.4		
	1/14/58	0.173	12.8	4.0	7.6		
207	12/18/57	0.192	—	5.2	0	Trifluo-perazine	Mod. improved
	1/15/58	0.194	14.2	3.0	4.6		Schizo-affective
	7/12/58	0.114	7.2	2.8	2.5		Mod. improved
193	12/12/57	0.205	—	5.8	5.1	Insulin	Worsened
	1/6/58	0.122	16.9	4.6	3.0		Schizo-affective
	2/5/58	0.310	18.2	9.9	5.4		
259	2/27/58	0.325	9.7	8.2	6.4		Mark. improved
	7/11/58	0.408	11.9	13.4	8.9		Schiz. undiff.
340	4/28/58	0.284	40.6	7.7	4.7	EST	Mod. improved
	5/14/58	0.372	7.4	12.6	10.6		Schiz. par. (+Multiple sclerosis)
323	4/22/58	0.498	15.6	11.4	7.8	Insulin	Mark. improved
	6/25/58	0.497	20.7	16.7	8.8		Schiz. undiff.
477	10/24/58	0.610	13.3	—	6.7	EST	Mod. improved
	10/30/58	0.509	17.5	21.8	11.8		Schiz. cat.
	11/18/58	0.480	11.7	13.7	9.2		Mark. improved
	7/17/59	0.634	19.4	16.8	9.6		
	7/31/59	0.550	16.6	—	9.5		
491	11/20/58	0.256	12.8	6.0	5.4	Mepazine	Mark. improved
	2/3/59	0.240	13.1	11.5	5.2		Schiz. par.
	3/17/59	0.264	8.3	5.7	4.4		
527	1/22/59	0.197	7.1	26.6	5.5	EST	Mod. improved
	2/19/59	0.185	18.6	—	9.0		Schiz. ch.
529	1/22/59	0.370	7.4	11.4	5.2	EST	Mod. improved
	2/5/59	0.213	14.0	14.2	7.4		Obsessive compulsive
664	5/14/59	0.534	19.7	14.9	9.2	Trifluo-perazine	Mod. improved
	6/25/59	0.714	22.0	—	14.3		Schiz. cat.
	7/17/59	0.586	14.5	13.7	10.4		
674	5/21/59	0.296	9.4	5.2	4.9	Trifluo-perazine	Mod. improved
	7/16/59	0.480	13.3	3.5	8.7		Schiz. undiff.
842	12/1/59	0.387	12.5	11.6	7.5	EST	Mod. improved
	12/30/59	0.352	14.4	19.9	8.1		Schiz. cat.
	1/21/60	0.396	11.7	16.2	8.8		Mod. improved

NOTE: The first neurochemical data precede the institution of therapy in each case in Tables 2-4.

TABLE 3
Neurochemical Changes in Patients Demonstrating Slight Clinical Improvement

CASE NO.	DATE	NEUROCHEMICAL DATA				CLINICAL DATA	
		Total Cerebrospinal-Fluid Glycoprotein (Fraction G) mg./ml.	Cerebrospinal-Fluid Glycoprotein Hexose microgm./ml.	Cerebrospinal-Fluid Glycoprotein Hexosamine microgm./ml.	Cerebrospinal-Fluid Glycoprotein Neuraminic Acid microgm./ml.	Treatment Instituted	Clinical Status
159	10/25/57	0.180	—	3.0	1.7	Insulin	Schizophrenia
	7/8/58	0.185	5.0	3.2	4.0		Sl. improved
168	11/13/57	0.316	—	24.2	5.3	Insulin	Schiz. par.
	11/18/57	0.195	19.6	3.6	—		
	6/5/58	0.250	32.2	10.0	3.4		Sl. improved
184	12/6/57	0.424	24.6	0	4.5	Insulin	Schiz. par.
	3/7/58	0.424	8.9	11.2	6.2		Sl. improved
196	12/13/57	0.100	—	3.2	0.3	Insulin	Schiz. par.
	1/15/58	0.324	6.8	10.2	4.2		Sl. improved
	4/2/58	0.136	11.6	3.8	2.3		Worsened
197	12/13/57	0.200	4.4	6.0	4.6	Chlorpromazine	Schiz. par.
	3/18/58	0.214	11.3	7.0	5.2	Perphenazine	Sl. improved
	6/12/58	0.186	20.2	0	4.6		Worsened
205	12/17/57	0.212	—	8.8	5.1	Perphenazine	Schiz. cat.
	4/2/58	0.266	7.8	7.8	6.4		Sl. improved
262	3/4/58	0.507	—	19.0	7.4	Perphenazine	Mental defective
	3/31/58	0.658	15.8	17.5	9.9		with psychosis
	6/25/58	0.706	30.2	18.2	11.9		Sl. improved
393	6/27/58	0.301	13.7	5.1	1.7	Insulin	Schiz. undiff.
	2/11/59	0.266	14.6	9.6	5.3		Sl. improved
	3/11/59	0.247	6.7	10.3	4.2		Sl. improved
737	7/31/59	0.269	10.8	5.4	8.0	Chlorpromazine	Schizo-affective
	9/18/59	0.308	10.7	8.2	8.4		Sl. improved

Tables 2, 3 and 4 briefly summarize the clinical and neurochemical data for the 33 cases here presented. Table 5 summarizes the presence or absence of correlation in terms of direction of change in neurochemical and clinical values in 75 instances of entry into and recovery from psychosis in all cases studied to date and shows that despite the large number of possibilities for absence of correlation in this double-blind study, the extent of the close correlation is clearly apparent.

to as syntheses because the essential psychological changes are visualized as proceeding from more random to less random, from less organized to more organized, from simpler to more complex states. This change is clear in the categories of focus and continuity ability, integration of intellectual and affective processes, and the maintenance of ego boundaries. The fragmentation which describes each of these functions in psychosis becomes rapidly or gradually replaced by more organized coordi-

TABLE 4
Neurochemical Data in Patients Demonstrating No Significant Clinical Change

CASE NO.	DATE	NEUROCHEMICAL DATA				CLINICAL DATA	
		Total Cerebrospinal-Fluid Glycoprotein (Fraction G) mg./ml.	Cerebrospinal-Fluid Glycoprotein Hexose microgm./ml.	Cerebrospinal-Fluid Glycoprotein Hexosamine microgm./ml.	Cerebrospinal-Fluid Glycoprotein Neuraminic Acid microgm./ml.	Treatment Instituted	Clinical Status
178	12/4/57	0.295	8.2	0	2.3	Insulin	Schiz. par.
	1/6/58	0.264	6.0	0	4.0		
	3/18/58	0.155	12.7	8.8	1.3		
205	12/17/57	0.212	—	5.6	5.1	Perphenazine	No change
	6/25/58	0.349	10.1	11.7	4.7		
	3/15/58	0.400	11.7	13.1	7.4		
264	6/2/58	0.336	13.1	13.1	8.0	EST	Schiz. cat.
						Chlorpromazine	No change
267	3/31/58	0.306	13.4	10.1	5.9	None	No change
	6/11/58	0.354	13.7	10.2	6.5	Chlorpromazine	Schiz. par.
275	3/12/58	0.342	12.9	18.8	7.1		
	4/23/58	0.325	17.9	10.3	6.9		
307	3/7/58	0.392	11.7	10.3	9.6	None	Schiz. undiff.
	6/11/58	0.492	13.2	16.6	9.2		
	8/20/58	0.492	13.7	10.4	7.0		
431	9/10/58	0.474	11.2	10.3	7.6	EST	Ch. brain syn.
	9/8/59	0.425	17.2	21.5	8.9		
	9/25/59	0.215	16.5	21.0	8.3		
822	10/22/59	0.480	8.3	6.4	8.5	EST	No change
	10/29/59	0.608	12.2	12.6	7.6		
	12/1/59	0.444	12.3	15.2	7.7		
	12/30/59	0.462	13.3	14.7	7.8	Withdrawal	Schiz. par.
845	12/1/59	0.386	13.2	—	8.1		
	12/10/59	0.585	13.0	23.3	8.9		
879	12/22/59	0.400	9.6	16.5	6.6	None	Drug addiction
	1/15/60	0.291	10.9	11.2	5.6		

TABLE 5

Summary of 75 Instances * of Improvement, Worsening and No Change in the First 57 Cases Studied by Combined Double-Blind Clinical and Neurochemical Studies

Presence or Absence of Correlation of Clinical and Neurochemical Data	Number	Total Number
1. Presence of correlation		70
a) Neurochemical changes coincident with clinical improvement	45	
b) Neurochemical changes coincident with clinical worsening	12	
c) No significant changes in either clinical or chemical status	13	
2. Absence of correlation		5
a) Clinical improvement but no coincident neurochemical change	3	
b) Clinical improvement but neurochemical changes indicative of worsening	2	

* The total number of examples of presence or absence of correlation exceeds the total number of cases since in 18 of the cases studied, instances of both clinical improvement and worsening were observed in each case.

DISCUSSION

The changes which occur are referred

nated function. Survival and gratification functions are considered as the total expression of the desire to preserve the organized (live) state as distinct from the more random (dead) state of organization, and are indicated by clinical evidence of the energies devoted to nurture and growth as opposed to those devoted to injury and destruction.

It may be considered that none of these functions can operate at a highly organized level 1. If the level of anxiety is too high; 2. If the rate of processes is so excessive or so degraded that the ability to coordinate discrete functions is impaired; 3. If the normal filtering of sensory input is so decreased that the organizing "matrices" are bombarded by discontinuous and irrelevant

units of information from the outer world or from bodily processes and other thought processes; and 4. If mood is so extreme that, through rate phenomena alone, and possibly through physico-chemical "field-effects" the function of multineuronal matrices is impaired.

At the present time it would appear of interest to view these changes in this way for the purposes of following stages in the recovery process. This formulation represents only an initial frame of reference for future detailed study. The scheme is tentative, preliminary, and requires much testing before any conclusions can be reached as to its usefulness.

Chemical Syntheses. The tendency for enrichment to occur in a particular constituent of these nervous system glycoproteins has been shown to be independent of overall increases of total glycoprotein, and independent of the type of treatment employed (1). Evidence has also been presented that these changes are independent of diet and of the age of the patient (1). These chemical changes appear to correlate with changes in clinical status as shown here and elsewhere (1). That they reflect changes in permeability of membrane barriers, or release of certain constituents from stored sites seems less likely in view of the failure for the concentration of total glycoprotein to correlate with changes in particular constituents; in fact, the total glycoprotein often is decreased at the time that particular carbohydrate constituents are markedly increased (see (1) and cases 477, 527, 529) suggesting preferential synthesis. The investigation of these changes by radioactive biosynthetic studies is now in progress.

Hypotheses Regarding Correlations of Psychological and Neurochemical Events.

It is important to recognize at the outset that there are no known correlations between the psychological events and the neurochemical events here described, except that they occur at the same time in the same person. On the other hand, no chemical changes of this type in the nervous system itself of the patient under study have been previously known whereby correlations with psychological events might even be hypothesized. Since these changes are in nervous system constituents, the

probability that they have primary relevance to nervous system function appears increased.

At this stage of our studies, statements of extensive correlative hypotheses are not indicated. Some clues for further investigation may be noted however. Thus, 1. A change in the type of and occasionally in the total content of glycoprotein present in one compartment of the nervous system itself, the cerebrospinal fluid, occurs with the entry into and recovery from psychosis; 2. This change is often highly selective in terms of the particular carbohydrate moiety which is most involved; 3. The synthesis (or release) of glycoproteins containing greater or lesser amounts of hexose appears to correlate with mood changes; 4. Increased hexosamine appears to be associated with decreased anxiety, a change in the rate of processes, change in focus and continuity ability and changes in the maintenance of ego boundaries (the changes in glycoprotein hexosamine may have some relationship to changes in other amines in the nervous system observed in animals when monoamine oxidase inhibitors are administered and postulated to be related to affective states in humans); 5. Increases in neuraminic acid appear to be more associated with fundamental improvement in organization, integration, and maintenance of ego boundaries. Whether the accumulation of hexoses and hexosamines (precursors) bound to proteins taken together with a failure of accumulation of neuraminic acid (derivative) represent some form of enzymatic block in biosynthesis (2), and whether the correction of this disturbance might be accompanied by clinical improvement remains an intriguing subject for further study.

These are only tentative and highly speculative hypotheses and must be clearly distinguished from the quantitative nature of the data from which these hypotheses arise.

CONCLUSIONS

Quantitative neurochemical changes and the absence of change have been observed in patients in the glycoproteins of one compartment of the nervous system itself, the cerebrospinal fluid, which are temporally related to psychological and behavioral

changes or the absence of change respectively occurring during entry into and recovery from psychotic states. The psychotic state is defined in a manner which permits some quantification of the disturbance in terms of groups of psychological functions involved. The hypothesis is considered that the functional changes in recovery from psychosis may be usefully viewed as syntheses, and that the functional synthetic changes which occur in the nervous system are unitary even though they may be investigated and described in both psychological and biochemical terms.

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DISCUSSION

MAX FINK, M.D. (Glen Oaks, N. Y.).—Dr. Bogoch and his co-workers have presented another in their series of studies relating spinal fluid changes to behavioral alterations in a variety of psychotic states treated by drugs, insulin, ECT, and time. In this report they add 33 cases to their original 24 for a total of 57 cases. In these studies they are making a variety of broad generalizations which, if true, would reflect a remarkable insight on their part of basic biochemical mechanisms related to behavior.

It would be inappropriate for me to inquire into the reliability of their biochemical measures, since I am confident that the authors have convinced their biochemical colleagues that the error variance in their methods is much less than the changes on retesting. Further, I trust that the authors have taken the simple precautions of dividing their samples at the bedside into duplicate fractions,

so coded that the biochemist is not aware that he is testing the same samples and that the sample values are sufficiently alike as to warrant our reliance on the biochemical procedures.

I would attend to their general theoretic formulation in the hope that my inquiry may serve to prevent the authors from disappointing us and themselves. In assuming a unitary biochemical basis for schizophrenic illnesses (and implicitly in their other reports for depressive illnesses and chronic brain syndromes) they follow a long line of biochemical investigations in recent years whose first reports created feelings of optimism in our society—feelings that were disappointed time and again.

Their theoretic basis begins with a view of psychosis as a disintegrated, fragmented and chaotic state, and recovery as the transition to a more integrated, unified and orderly one. They then suggest that these syntheses in behavior are accompanied by biochemical syntheses in the nervous system. Thus, they argue for a one to one relation between a biochemical synthesis and a behavioral synthesis.

They further suggest that the basic biochemical processes are reflected in the spinal fluid glycoprotein metabolism, and document their thesis with detailed measurements in the wide range of chronic psychotic subjects. Their data are clear. Those schizophrenic patients who demonstrated a moderate or marked increase in synthesis in behavior showed also significant increases in CSF glycoprotein hexose, hexosamine and neuraminic acid. Finally, the patients who showed either minimal improvement or no change in behavior showed no change in the biochemical measures.

Thus, in a complex biochemical measure, the authors find a unitary reflection of behavioral change. Such findings are indeed exciting, if true. I, for one, have serious doubts that such simple unitary patterns will be substantiated in further testing and can only plead with the authors for a careful statement of their observations. One wonders why, with the original clues available more than 18 months ago, the authors have not taken spinal fluids from a series of schizophrenic patients treated with one treatment modality alone. I am also puzzled by the note that these 33 patients were studied from October 1957 to January 1960, and why they were not available in the 1960 report before the Society. Is it because the biochemical procedures are so complex as to require many hours of analysis? If so, how stable are the tested elements in such fluids over time?

I am also concerned by the failure of the authors to specify such seemingly obvious factors as duration of illness, age and sex of subjects.

Some years ago our laboratory undertook a study of the changes in spinal fluid cholinesterases in psychotic subjects undergoing convulsive therapy. We failed to find the anticipated behavioral-biochemical relationships. We did observe, however, that pretreatment cholinesterase values were related more to age than to diagnosis or state of illness; and that changes in values were positively, though poorly, related to other physiologic indices, but not with improvement. In view of this experience, and the fact that other biochemical-behavioral hypotheses have foundered on such simple variables, I would urge the authors to first assess their data as potential reflections of these more simple relationships.

Finally, I am also troubled by the need of the authors to develop an elegant theory of behavioral change to provide the framework for their biochemical change relationships. Since they have seen fit to use one nosologic schema in their statement of schizophrenia, perhaps they would be willing, for heuristic purposes, to make a comparison of their biochemical changes with the more conventional schemata of improvement, and include such data in a later report. It is apparent that the authors are treading the brink of tautology and there seems a clear need for anchoring their observations in more stable behavioral data.

I find these observations most remarkable. Should this laboratory indicate the reliability of their techniques and their findings, it would then be imperative for other laboratories to substantiate the validity of these tests.

AUTHOR'S REPLY TO DISCUSSANT'S QUESTIONS

The authors wish to thank the discussant

for his comments and reply as follows to his questions:

1. Duplicate determinations, double-blind precautions, error variance and relevance to age are all described in previous communications (1, 3, 6);

2. The high degree of constancy of these determinations is illustrated in Table 4 and in (1), where patients receiving treatment but showing no clinical change, also demonstrated no significant neurochemical change. Also, this second series of 33 cases confirms the observations made in the first series of 24 cases (1);

3. Neither a unitary, nor a biochemical, nor a unitary biochemical basis for all schizophrenic illnesses is necessarily assumed in this paper or in previous communications, and certainly not for all depressive illnesses and chronic brain syndromes. A biological basis (genetic: experiential: biochemical) is assumed;

4. Of 57 cases, both in this and in the previous communication (1), 39 were treated with one treatment alone;

5. Duration of illness, age and sex of patient show no clear relationship to *changes* in glycoprotein constituent concentrations in individual patients. The *basal* level of glycoprotein hexosamine tends to be higher with increasing age, and tendencies for the basal level of glycoprotein hexose to relate to age are also described (1), but no relationship of age, sex, or duration of illness has been observed to either increases, decreases or both in these constituents in the same patient;

6. The conventional schemata of clinical improvement are indeed used here (see Table 1) since, as pointed out in the text, these are generally common stable behavioral data used in every mental status examination. The neurochemical data are therefore here correlated with ordinary detailed mental status data.

PHRENOTROPIC DRUGS IN PSYCHOSOMATIC DISORDERS (SKIN)¹

EVA P. LESTER, M.D., E. D. WITTKOWER, M.D., F. KALZ, M.D.,
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Skin disorders and especially those with excessive itching have attracted great clinical and therapeutic interest in psychosomatic medicine. The trial of phrenotropic drugs in patients with pruritic tensional syndromes or in those with disfiguring chronic eruptions and depressive symptoms offered from the start attractive theoretical and therapeutic possibilities. It, furthermore, allowed the testing of the efficacy of these drugs in a visible and recordable situation. A good number of studies on the subject have been reported over the last six to eight years, but only few among them are controlled pharmacological trials (1-7). The results obtained in these studies vary greatly; this reflects on the difference of orientation in the observers as well as the great variability in the criteria and methods applied by the different investigators.

The present study is a joint effort of three psychiatrists and one dermatologist. The purpose of the study was to investigate: 1) the effects of these drugs on the two components of the disease, *i.e.*, disturbances of mood, behavior and thought; and cutaneous changes and 2) the interrelation of these two separate groups of symptoms during the treatment process. A secondary objective was to develop clinical criteria for psychopharmacotherapy in dermatology with regard to selection of patients, dosage and duration of treatment.

MATERIAL AND METHOD

We shall discuss this under four headings: dermatoses, patients, drugs and assessment of change.

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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Dermatoses: Four dermatoses were chosen; atopic dermatitis, seborrheic dermatoses (including acne vulgaris), psoriasis and hyperhidrosis. The three criteria for the selection were: age over 14; absence of a psychotic disorder or mental deficiency; and absence of extensive use of phrenotropic drugs in the past. The patients were referred from the skin department of a large general hospital. They were seen at the skin department by a psychiatrist and a dermatologist. It soon became apparent that, despite the intention to have an unselected cross section of patients, a selection was actually made by the referring dermatologists. Chronic intractable cases with obvious psychosocial problems, and cases that were difficult to manage were referred more frequently by the dermatologists than acute and "simple" cases which responded readily to standard skin treatments.

Patients: A total of 85 patients was referred, 14 of whom dropped out before the end of one trial period, and therefore were not included in the study. There were 40 females and 31 males, with an average age of 35 (youngest 14, oldest 60). Diagnostically they consisted of 25 patients with psoriasis, 18 with atopic dermatitis, 26 with seborrheic dermatoses (including acne) and 2 with hyperhidrosis.

Drugs: Four drugs (chlorpromazine, imipramine, meprobamate and chlordiazepoxide) were used in a double blind fashion. Each drug was tried for 4 weeks. If improvement was effected in the skin condition during this time, the drug was continued for 4 months, after which an identical placebo was introduced for 4 additional weeks. If no improvement was noticed with one drug in 4 weeks the next drug was introduced. Each patient had five 4-week trials or, one 4-month and one 4-week trial. Standard therapeutic doses were gradually increased to the level of individual tolerance. Since these were outpatients, the

maximum dose was often lower than the usual maximal doses for patients treated in psychiatric wards. However, they were considerably higher than the doses used by most non-psychiatric investigators and consisted of: chlorpromazine (100-400 mgm.); meprobamate (1200-3200 mgm.); imipramine (75-150 mgm.); and methaminodiazepoxide (40-100 mgm.). It should be noted that in many instances, particularly in order to increase the patient's motivation for regular attendance, it was necessary to prescribe non-specific local medication.

Assessment of Change: Following the referral by the dermatologist, each patient was seen by the psychiatrist in a long psychiatric interview. The focal points of this initial interview were: 1) the establishment of a relationship between life situations and the onset and subsequent exacerbations of cutaneous disorders; 2) the personality of the patients; 3) the central conflict group and its possible relationship to the cutaneous manifestations. Subsequently the patients were seen weekly by both the dermatologist and the psychiatrist. One psychiatrist conducted all the interviews, but the results were discussed and evaluated by another psychiatrist as well. Photographs of the affected areas of skin were taken at the beginning and the end of each trial period. Two categories of variables were selected for the evaluation of observed changes: 1. Psychological variables consisting of anxiety-tension, and depression; 2. Dermatological variables consisting of rash and itching. Additional variables studied were sleep, other somatic symptoms, patient-therapist relationship and environmental stress.

The grouping of psychological variables into two poles of anxiety-tension and depression was to facilitate the assessment and quantification(9). On the pole of anxiety-tension such symptoms were included as restlessness, agitation, fears, irritability, the feeling of being jittery, panic, the autonomic equivalents of anxiety (palpitations, tremors, dryness of the mouth, excessive perspiration, shortness of breath, a choking feeling), and vague anxiety. On the pole of depression were included sadness, apathy, retardation, apprehension, preoccupation with death, self-recriminations, hope-

lessness, and helplessness.

For the appraisal of dermatological change we chose the variables of rash and itching. By "rash" is meant the objective manifestations of the skin, including exudation, scaling, excoriations, etc., and by "itching" the subjective skin sensations such as the itch proper, burning sensations and tickling. For quantitative analysis of our findings, the four variables were rated on each weekly interview in the order of:

no	0 (the symptom in question is absent)
mild	*
moderate	**
severe	***
very severe	****

The rating was made on the basis of the subjective statement of the patients and the observations of the examiner. Because rating scales were not used, it might be argued that the evaluation of change was somewhat arbitrary. However, our object was not the effect of the drugs on the psychiatric symptoms of the patients, but the relative change of these symptoms and their correlation with changes in cutaneous pathology. We were aware that our method, based entirely on the clinical impressions of a psychiatrist, might include a degree of subjective error, but as long as this error was kept relatively stable, the final results were not significantly affected.

Finally, for the evaluation of change, a comparison was made between the beginning and the end of each drug period. Fluctuations within the period were not taken into account. The change was rated as: worse, no change, little, moderate and excellent improvement.

RESULTS

Table 1 shows the combined effect of the 4 drugs as compared with the effect of the placebo. If amelioration of the rash and/or itching is taken as an indication of effectiveness of any dermatological treatment, the phrenotropic drugs as a whole produced results exceeding a 50% improvement. The results obtained by the placebo approximate a 30% improvement. This is in agreement with most studies on the placebo effect.

TABLE 1
Combined Effect of the Four Phrenotropic Agents on the Four Variables as
Compared to the Effect of the Placebo
Total Number of Therapeutic Trials — 135

	TENSION	DEPRESSION	RASH	ITCHING
Worse	12	17	14	8
No change	35	31	50	23
Little improvement	24	11	27	12
Moderate improvement	16	1	13	19
Excellent improvement	29	32	26	24
% of total improvement	59	47	50	63
Total Number of Placebo Trials — 36				
Worse	8	4	4	10
No change	13	9	20	8
Little improvement	7	6	9	1
Moderate improvement	0	0	0	1
Excellent improvement	5	1	2	5
% of total improvement	36	35	31	28

TABLE 2
Effect of the Four Phrenotropic Agents on Different Dermatoses

	PSORIASIS Total No. of Trials — 47				ATOPIC DERMATITIS Total No. of Trials — 35				SEBORRHEIC DERMATOSES (incl. ACNE VULGARIS) Total No. of Trials — 43			
	Tension	Depression	Rash	Itching	Tension	Depression	Rash	Itching	Tension	Depression	Rash	Itching
Worse	7	6	5	2	3	5	5	4	2	6	4	2
No change	10	15	22	7	9	10	8	6	16	8	20	10
Little improvement	8	4	9	2	8	5	9	7	8	2	9	3
Moderate improvement	1	0	3	6	12	0	8	11	3	1	2	2
Excellent improvement	14	11	8	8	3	7	4	5	12	14	8	11
% of total improvement	57	42	43	64	66	44	62	70	56	55	44	57

If the individual diseases are considered separately, as shown in Table 2, there is no difference between improvement rates in seborrheic dermatoses and psoriasis. Atopic dermatitis shows a slightly higher rate of improvement. This could be explained by the fact that in atopic patients, the existing psychiatric symptoms were, on the whole, more pronounced. Atopic individuals are exceedingly tense, restless, difficult-to-manage patients (10). The presence, since infancy, of a strong predisposition of the skin for exaggerated pruritic responses to a wide variety of stimuli (what is now accepted as the constitutional basis of atopic dermatitis) produced a profound effect on the person-

ality of these patients. The observation made here is that atopic patients, more often than other dermatological patients, present marked disturbances of mood and behaviour and that these respond readily to phrenotropic agents. Concomitant to this, there is a change in the intensity and gravity of pruritus, restoration of other bodily functions such as sleep and appetite and improvement in the pathologic skin manifestations. We can cite briefly one case:

A 38-year-old married woman with generalized rash, crippling itching and a host of other somatic symptoms, all of a functional nature (diarrhea, anorexia, insomnia, weight loss and

palpitation), had been in and out of hospitals and had had a lengthy list of treatments for the last 10 to 15 years. She had spent a great deal of her childhood in foster homes and convents and had a 4-year hospitalization for the eczema between the ages of 7 and 11. She had married at 15, and had 4 children. Her family life was entirely disorganized and the patient expressed the feeling, when she came to us, of a "nightmare without end." Chlorpromazine effected a remission of all somatic symptoms; the skin almost cleared up. On placebo, she relapsed.

Comparing the drugs separately, as shown on Table 3, it is observed that there

the present study does not exceed 50% while the other drugs show better results.

The number of patients studied under Librium was too small to draw valid conclusions. Nevertheless, it is rather surprising that despite a good response to this drug as far as tension-anxiety and pruritus were concerned, the patients showed relatively little objective dermatological improvement. Unless this is a statistical "accident" due to the small number of cases, it is an observation rather difficult to explain in view of the fact that results with the other drugs are uniformly consistent.

Imipramine, an antidepressant, showed

TABLE 3
Comparative Effect of Phrenotropic Drug on Skin Diseases

	CHLORPROMAZINE Tot. No. of trials - 45				MEPROBAMATE Tot. No. of trials - 39				IMIPRAMINE Tot. No. of trials - 27				CHLORDIAZEPOXIDE Tot. No. of trials - 16			
	Ten- sion	Depres- sion	Rash	Itch- ing	Ten- sion	Depres- sion	Rash	Itch- ing	Ten- sion	Depres- sion	Rash	Itch- ing	Ten- sion	Depres- sion	Rash	Itch- ing
Worse	4	5	5	6	4	9	6	3	3	2	2	1	1	1	1	0
No change	9	11	13	6	13	11	15	14	11	5	13	7	4	6	10	4
Little improvement	11	4	6	3	7	4	15	5	3	1	4	4	2	2	4	3
Moderate improvement	5	0	6	9	6	2	3	6	1	0	4	3	5	0	0	1
Excellent improvement	10	11	15	13	7	5	0	6	9	13	4	5	3	3	1	2
% of total improvement	67	48	60	68°	54	35	46	50	48	67	44	60	67	42	31	60
Statistical Analysis																
χ^2	5.3 7.9				1.1 2.1				0.6 3.4				1.1 1.9			
PROB	<2.5% <1.0%				>5% >5%				>5% >5%				>5% >5%			

Note the χ^2 figures include Yates' correction.

are differences in their effectiveness. Chlorpromazine has a better overall effect. The improvement of the dermatological symptoms effected by chlorpromazine was highly significant in that the probability of it being a chance occurrence is <2.5%. The changes produced by the other drugs have a relatively low statistical value (probability of chance occurrence 5% or more). All drugs produced amelioration of pruritus in more than 50% of their patients which is especially important as pruritus often represents a most annoying and incapacitating symptom. Interestingly, in contrast to previous enthusiastic reports on the antipruritic value of meprobamate, its effectiveness in

moderate results in the overall improvement rates. However, if these are plotted against the number of patients who initially presented signs of depression, then imipramine proves to be effective in skin disorders with depressive components. (Total effect, 57% improvement of the rash and 66% of the itching.)

The response of patients with acne vulgaris to imipramine proved an interesting finding. Of 9 cases studied, 8 presented clinical signs of depression at the time of introduction to the drug. These were young people with acne vulgaris of 6 to 10 years duration, with multiple scars on the face. The prevailing mood was one of hopeless-

ness, apathy and defeat. Most had considerably withdrawn from social contacts, were sensitive to human interactions and harbored feelings of inadequacy and guilt. Imipramine produced complete recovery from these symptoms and initiated dermatological improvement. Cases with moderate rashes cleared entirely and those with severe extended rashes showed considerable amelioration.

An observation made repeatedly during the investigation was that improvement usually was parallel in all four variables. Anxiety-tension and itching usually improved first while changes in the various eruptions took some time to appear. Depression, if present, responded slowly too—a common phenomenon in psychopharmacotherapy. In order to illustrate this correlation between the four variables we plotted each individual trial separately (Figure 1). The figure clearly illustrates that changes in psychiatric pathology went parallel with changes in dermal pathology, in other words, that there was a global response to the drug. Since these drugs are not known to possess specific properties as far as the skin is concerned, we are inclined to believe that the dermatological improvement was due to central mechanisms.

An attempt was finally made to correlate the findings to the personality of the patients. Because the number of cases examined was not very high, it was decided to group them into 4 major categories. (The patients who did not belong to any of these 4 categories are not included below.) This

classification was as follows :

(a) <i>Neurotic disorders</i>	54
Hysteric	14
Obsessive-compulsive	22
Reactive depressive	18
(b) <i>Personality disorders</i>	41
Passive-dependent-inadequate	28
Aggressive-dependent-rigid	13
(c) <i>Prepsychotic disorders</i>	15
(d) <i>"Normal" personality</i>	8

(The numbers represent drug trials on patients with the above disorders.)

If all neurotic disturbances are taken together, there are practically no differences between the groups (a), (b), and (c), as indicated on Table 4. The comparative analysis of the findings among the three subgroups in category (a), however, indicates that subgroup "reactive depressions" showed by far the best results. (Improvement : tension 77% ; rash 88% ; and itching 93%.) If this subgroup is not included in category (a), the results obtained by pharmacotherapy with hysteric and obsessive-compulsive patients are not much higher than the results obtained by placebo. It must be stressed here, that in the category labelled "personality disorders," we did not include psychopathic character disorders, addictions and sexual aberrations, *i.e.*, disorders which are renowned for their resistance to all kinds of treatment. The reason for this is that only a few patients were referred, and these dropped out very early

TABLE 4
Relevance of Personality on the Effect of Phrenotropic
Drugs on Skin Diseases

	NEUROTIC DISORDERS				PERSONALITY DISORDERS				PREPSYCHOTIC DISORDERS			
	Tension	Depression	Rash	Itching	Tension	Depression	Rash	Itching	Tension	Depression	Rash	Itching
Worse	7(0)	8(1)	5(0)	7(0)	5	4	5	3	0	3	1	0
No change	16(4)	17(2)	23(0)	14(1)	12	9	12	8	5	5	6	5
Little												
improvement	11(5)	1(1)	10(5)	9(4)	6	5	12	2	5	3	4	4
Moderate												
improvement	6(2)	0	7(4)	9(5)	6	0	5	6	2	1	1	0
Excellent												
improvement	13(7)	18(10)	9(7)	11(7)	11	10	7	9	3	2	3	4
% of total												
improvement	56(77)	43(78)	48(88)	58(92)	57	56	58	60	66	42	53	61

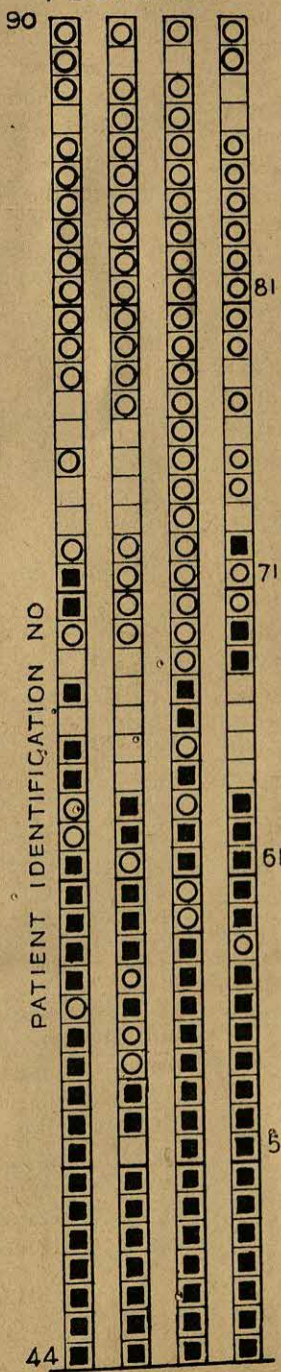
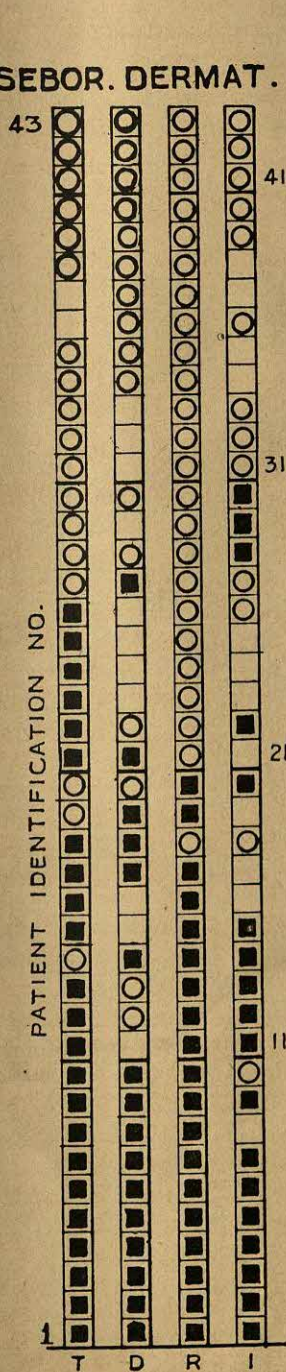
in the course of investigation. The patients included as personality disorders were predominately passive dependent, inadequate, chronically anxious persons and these did

remarkably well with the agents used. The 8 patients in the category "normal personality" showed dermatological improvement of less than 20%.

FIGURE 1

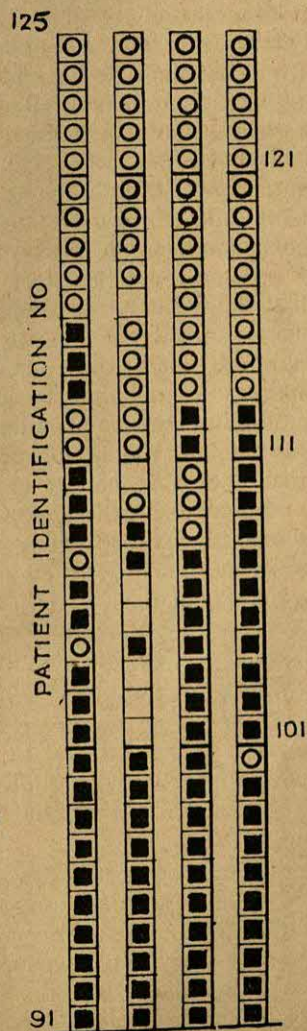
PSORIASIS

SEBOR. DERMAT.



- SYMPTOM NOT PRESENT
- SYMPTOM PRESENT BUT NOT IMPROVED
- SYMPTOM PRESENT AND IMPROVED

ATOPIC DERMAT.



CONCLUSIONS AND DISCUSSION

A number of dermatological patients suffering from various "psychosomatic" dermatoses and presenting a varying degree of psychopathology were studied over a period of 4 weeks to 20 months. Phrenotropic drugs were administered as the sole or primary therapeutic agent. The following conclusions are drawn from the analysis of the data obtained :

1. All in all, about 50% of the patients showed improvement in the cutaneous symptomatology of the dermatoses studied. The response to placebo did not exceed 30%.

2. There was a good correlation of improvement between the dermatological variables, *i.e.*, rash and itching and the psychiatric variables, anxiety-tension and depression. This correlation was especially marked between tension-anxiety and itching. Previous work has demonstrated that the patients under experimental stress show a reduced threshold for itching(11). The data presented here establish the psychosomatic principle at this level of physiological phenomena. Chlorpromazine proved to have the best anti-pruritic effect. It is significant that imipramine, an antidepressant, has also a marked effect on itching. The response of itching to imipramine as shown from the presented data is relative to the response of depressive symptoms to the drug. This points to the often expressed hypothesis that itching in certain cases is a depressive equivalent. In these cases, patients unconsciously use itching and scratching as an act of self-destruction.

3. An observation made repeatedly was that the effectiveness of the drugs on the cutaneous pathology was relative to the degree of psychiatric symptoms. In other words, patients with severe anxiety-tension or depression, responded best in their skin symptoms. Patients with negligible psychopathology showed little dermatologic improvement.

4. Despite the fact that most of the symptoms rated here as depression were of a neurotic-reactive nature, they responded well to imipramine (total improvement of about 65%), a drug usually considered effective in the major depressions. Its effective-

ness should probably be reappraised, as imipramine is here shown quite active in neurotic-reactive depressions. The antidepressant effect of chlorpromazine should also be emphasized. This finding is in accord with the work of Lambert, Revol(12) and their group in France, who have shown that those phenothiazines which have a sedative effect on anxiety and psychomotor activity, like levomepromazine and chlorpromazine, also have an effect on depression ; the piperazine-like phenothiazines, on the other hand, act mostly on the thought and perceptual disturbances and have little or no effect on anxiety and depression.

5. In 12 cases of acne vulgaris, we found 8 patients with depressive symptoms. These responded markedly well to imipramine. The improvement of mood was always followed by dermatological improvement. Antidepressants have already been used in chronic somatic illnesses such as rheumatoid arthritis, asthmatic bronchitis and others, mainly to supplement steroid or other physical treatments(13, 14). The reported results indicate that antidepressants add an important dimension in the treatment of these disorders. The proposed basis for their effectiveness is that energy deflected on to the self is freed by the drugs and redirected to the outside world(15). The use of antidepressants seems equally justified for chronic diseases with disfiguring and emotionally crippling effects on the self, which are very frequently accompanied by severe reactive depressions. These depressions have long been overlooked, either because they are masked by somatic symptomatology or because they are considered by many physicians a "natural" reaction to a crippling illness.

6. With regard to psychiatric diagnosis, skin patients with depressive symptoms showed a marked dermatological improvement with phrenotropic drugs. Patients with personality disorders of the passive-dependent and aggressive-dependent types, as well as prepsychotic disorders did well also, while neurotic patients (without depression) did poorly.

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A COMPARATIVE STUDY OF SELECTED ANTIDEPRESSANT MEDICATIONS AND EST¹

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In studies testing the efficacy of psychotropic medications there has been a trend toward the use of larger samples under better controlled double blind conditions. More and more knowledge is being accumulated concerning overall rates of improvement on specific medications. However, at this stage of research, measures of treatment outcome are mainly confined to global clinical ratings of improvement, or to changes in discrete symptoms. The use of global ratings, although indispensable in psychiatric assessment, tends to obscure differences in the effectiveness of medications in various areas of behavior and functioning. A quest into the specificity of drug action in terms of both types of behavior and types of patients affected is the next necessary step in the refinement of psychopharmacological research.

An increasing number of studies employ a control group on placebo in evaluating the efficacy of one or two active medications. This may indicate whether or not a psychotropic drug may produce significantly better results than a nonactive compound. However, few studies have attempted to compare psychotropic medications with older, already established forms of somatic therapy. This is of particular importance in the affective disorders, where EST has been used so prevalently with reported effectiveness. What the practicing clinician would

like to know, in reference to the depressions, is not only whether a given antidepressant medication is significantly more effective than placebo or chance, but whether it is equally or significantly more effective than the best somatic treatment currently available, and, if so, for what types of patients and for what predominant types of disturbance.

The current study compares 3 antidepressant medications with EST in terms of several qualitative and quantitative measures of treatment outcome, under controlled conditions. It also presents differential results for selected patient groups.

THE RESEARCH DESIGN

The data here presented have been accumulated during the course of an interdisciplinary multihospital drug testing project conducted in 3 state mental hospitals in the Greater Boston area. Data were processed and analyzed by a central team, which was also responsible for the standardization of procedures and development of instruments for assessment of patient change. A research team in each of the 3 collaborating hospitals was in charge of the treatment of the patients and the collection of data.

All patients included in the project at the 3 hospitals were randomly assigned to 4 treatment groups and (with the exception of EST, which could not be disguised) treated under a double blind design. The treatment period for each of the groups lasted for 8 weeks, although patients could be discharged from the treatment phase of the project after the fourth week if, in the opinion of the physician, they were sufficiently improved to leave the hospital and function in the community. Each patient is currently followed for one year upon discharge for informational purposes. This report is based on results obtained with the first 128 patients during their 8-week treatment period.

(a) *Treatment program.* Three drug

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groups were used and compared with a group on EST. The drugs and dosages were as follows :

isocarboxazid (Marplan) : maximum obligatory dose 40 mg., with another 10 mg. optional ;

phenelzine (Nardil) : maximum obligatory dose 60 mg., with another 15 mg. optional ;

imipramine (Tofranil) : maximum obligatory dose 150 mg., with another 37½ mg. optional.

Dosages were gradually increased so that maximum dosage was reached in the third week. EST, modified by anectine, was given with a minimum of 9 treatments (3 times weekly for 3 weeks), with further treatments at the discretion of the project psychiatrist.

In order not to contaminate the effects of our treatment program with other treatment given in the hospitals, personnel were instructed not to conduct psychotherapy, casework, occupational therapy, or ancillary therapy with project patients. The latter were housed together but on the same wards as other hospital patients. At 2 of the hospitals these were the male and female acute treatment wards, at the third hospital the research building. As far as possible, all project patients were treated as any other hospital patients.

(b) *Selection of subjects.* All new admissions to the 3 hospitals during the study were screened for participation in the project. Any patient with clinical symptoms of depression sufficiently severe to warrant treatment was considered eligible. The specific underlying dynamic nature of the illness and diagnostic category of the patient was not used as a basis for selection. As a consequence, psychoneurotic and psychotic depressive reactions ; manic-depressive psychoses in the depressed stage ; involutional psychoses ; schizophrenic reactions, schizo-affective type ; and personality disorders with depression could be included. All such patients between the ages of 16 and 70 were admitted to the study with the following exceptions :

1. Patients with severe organic impairment or physical condition which would contraindicate any of the treatments to be used ;

2. Patients requiring other types of maintenance treatment during the study (e.g., insulin or cortisone) ;

3. Patients with drug or alcohol addiction in addition to the depression ;

4. Patients who had been treated with antidepressant medications or EST within a month of admission.

Between March 16, 1960, and April 30, 1961, 151 patients were admitted to the study. Of these, 23 did not remain in treatment for the required minimum period of 4 weeks. The 15% drop out rate was due to medical complications, and to patients leaving the hospital against physicians' advice.

(c) *The patient population.* This was composed primarily of females, with a sex ratio of 3 to 1. The mean age for both sexes was 46, with only 12.5% of the patients below the age of 30, and 50% of the patients between the ages of 50 and 70. In terms of diagnostic categories, most of the depressed patients were classified as psychoneurotic depressive reactions (24%), schizophrenic reactions, schizo-affective type (24%), manic-depressive reactions (20%), and involutional psychotic reactions (15%).

Most of the patients had been hospitalized before, with approximately one-third hospitalized 3 or more times prior to this admission, one-third hospitalized 1 or 2 times, and only one-third first admissions.

Patients at the 3 hospitals were very similar in terms of these and other social characteristics. Most patients were housewives of lower middle or upper lower socioeconomic status. The majority had not completed high school, and their husbands worked in service, semi-skilled, or skilled manual occupations. The religious composition of the patients corresponded with the composition of their communities, with a predominance of Roman Catholics. Since the 3 hospitals draw their patients from 50 communities in the Greater Boston area, nearly all patients were from these urban or suburban centers. The population was white with the exception of one patient.

ASSESSMENT OF RECOVERY

For a full assessment of recovery an attempt was made to use a variety of measures which would cover different areas of

patients' mental status and functioning. The measures included:

(a) *Global rating of recovery.* This involved the usual 3-point rating employed in studies of this kind, on the basis of which patients were differentiated as to whether they had improved significantly, moderately, or not at all. This rating was made by the central team of the study on the basis of reports submitted by the project physician and a psychiatric examination of each patient at the end of the treatment period. The rating was made without knowledge of the type of treatment which the patient received.

The patient was judged markedly improved if he was viewed as ready to be discharged from the hospital and capable of resuming familiar community roles; moderately improved if some degree of improvement was discernible, although not sufficiently marked to permit the patient to be immediately discharged; and unimproved if he failed to show any appreciable change, experienced deterioration, or if his improvement was so slight that in terms of practical adjustment, management of tension, and ability to function, the change was insignificant.

(b) *Mental status.* Mental status examination protocols were analyzed to yield a quantitative score of the number of symptoms before and at the termination of the treatment. The scale consisted of 19 items, the majority of which recorded the presence or absence of symptoms. Maximum possible score on the scale is 55 points, minimum is 19. A method was devised to prorate the total score for items on which information was missing.

(c) *Measurement of depression.* A Depression Rating Scale was specially constructed for the project to measure the extent of clinical depression. It consists of 28 4- or 6-point scaled items covering the following areas: 1. Patient's assessment of his own psychological state; 2. Patient's assessment of physical and motor functions; and 3. Physician's assessment of the patient's condition.

The scale is completed by the project physician on the basis of a psychiatric examination. It has been found to differentiate between depressed patients, nonde-

pressed schizophrenic patients, and normal controls. A reliability analysis has indicated a high degree of agreement between psychiatrists who independently rate the patient.³

The maximum possible score on this scale is 145, the minimum 28. Total scores were adjusted through prorating for items marked not ascertainable.

(d) *Behavioral measures.* Patients' behavioral changes during the treatment period were measured by means of a Ward Observation Inventory. This is a 33-item, 4-point scale covering the areas of patient attitudes to hospital and medical routine, patient-personnel interaction, patient-peer group behavior, and patient activities on the ward. This instrument is filled out by trained ward nurses, who are assigned to observe patients at regular intervals. The maximum possible score on this is 134, the minimum 33.

The 4 instruments employed, therefore, provided both a qualitative overall assessment of change and more detailed quantitative scores for symptoms, depressed mood, and ward behavior.

RESULTS

(a) *Global ratings of recovery.* Fifty percent of the patients were found to be markedly improved, 25% moderately improved, and 25% unimproved. These rates were constant at each of the 3 participating hospitals.

Table 1 presents global ratings of recovery by treatment program. It may be seen that 75% of the patients treated with EST were found to be markedly improved as compared with 50% of the patients on phenelzine, 46% on imipramine, and 33% on isocarboxazid. A chi-square analysis reveals that EST produced significantly more marked improvements than isocarboxazid ($p=.01$) and imipramine ($p=.05$). EST also produced more marked improvement than phenelzine, but this only approaches significance at the .1 level. There were no significant differences among the 3 drugs, with the exception that phenelzine pro-

³ Details concerning this measure, as well as the Ward Observation Inventory, will be published in a forthcoming paper on methodology, *The Methodology of Drug Evaluation In Depression*.

TABLE 1
Clinical Ratings of Treatment Outcome by 4 Treatment Programs

	EST	TOFRANIL	NARDIL	MARPLAN	TOTAL
Markedly improved	21 (75.0)	17 (46.0)	15 (50.0)	11 (33.3)	64 (50.0)
Moderately improved	4 (14.3)	10 (27.0)	10 (33.3)	8 (24.2)	32 (25.0)
Unimproved	3 (10.7)	10 (27.0)	5 (16.7)	14 (42.4)	32 (25.0)
Total	28	37	30	33	128

duced more marked improvement than isocarboxazid at the .1 level.

When marked and moderate improvements are combined, EST is seen to produce some degree of improvement in 89% of the cases, phenelzine in 83%, imipramine in 73% and isocarboxazid in 57%. In this case, a chi-square analysis reveals that the only significant difference is between EST and isocarboxazid ($p=.05$). Phenelzine also produces more moderate and marked improvement than isocarboxazid, but this is only significant at the .1 level.

In order to examine the higher rates of marked improvement under EST in comparison to the drugs, an analysis of the outcome for certain categories of patients on EST and drugs was made.

1. *Treatment outcome by sex.* Table 2 presents treatment results in terms of global ratings of recovery by EST and drugs separately for each sex. It may be seen that 47% of all females improved markedly as compared with 58% of all males. This dif-

ference is not statistically significant. For the males on EST and on drugs there appears to be no difference in treatment outcome, with both forms of treatment producing the same remission rates. However, in the females 80% improved on EST as compared with only 39% on the antidepressant drugs. A chi-square analysis reveals that significantly more females improved markedly under EST than under the drugs ($p=.01$).

2. *Treatment outcome by age.* In Table 3, when patients were divided into 3 age groups, it was found that 62% in the youngest age group improved markedly, 40% in the middle age range and 47% in the oldest age group. A chi-square analysis revealed that significantly more patients in the youngest group improved markedly than in the other 2 age groups ($p=.05$).

While drugs and EST worked almost equally well for the youngest age group, EST seemed to work better in the oldest age group when compared to the medications. The difference in outcome was statistically significant ($p=.05$). In addition,

TABLE 2
Clinical Ratings of Treatment Outcome for EST and Medication by Sex

DRUGS	MALE	FEMALE	TOTAL
Markedly improved	14 (56.0)	29 (38.7)	43
Moderately improved	6 (24.0)	22 (29.3)	28
Unimproved	5 (20.0)	24 (32.0)	29
Total	25	75	100
EST			
Markedly improved	5 (62.5)	16 (80.0)	21
Moderately improved	2 (25.0)	2 (10.0)	4
Unimproved	1 (12.5)	2 (10.0)	3
Total	8	20	28
TOTAL			
Markedly improved	19 (57.6)	45 (47.4)	64
Moderately improved	8 (24.2)	24 (25.3)	32
Unimproved	6 (18.2)	26 (27.4)	32
Total	33	95	128

TABLE 3
Clinical Ratings of Treatment Outcome for EST and Medication by Age

DRUGS	16-39	40-54	55-70	TOTAL
Markedly improved	20 (57.1)	14 (35.9)	9 (34.5)	43
Moderately improved	12 (34.3)	8 (20.5)	8 (30.8)	28
Unimproved	3 (8.6)	17 (43.6)	9 (34.5)	29
Total	35	39	26	100
EST				
Markedly improved	8 (80.0)	4 (66.6)	9 (75.0)	21
Moderately improved	1 (10.0)	1 (16.6)	2 (16.6)	4
Unimproved	1 (10.0)	1 (16.6)	1 (8.3)	3
Total	10	6	12	28
TOTAL				
Markedly improved	28 (62.2)	18 (40.0)	18 (47.4)	64
Moderately improved	13 (28.9)	9 (20.0)	10 (26.3)	32
Unimproved	4 (8.9)	18 (40.0)	10 (26.3)	32
Total	45	45	38	128

although the frequency of marked improvements was similar for all 3 age groups under EST, this was not the case with the antidepressant medications. These produced significantly better results in the youngest age group than in the 2 older groups ($p=.05$).

3. *Treatment outcome by diagnostic category.* It may be seen in Table 4 that almost all psychoneurotic depressive reactions, approximately half of the manic-depressive and involuntal reactions, and about one-third of the schizo-affectives and psychotic depressive reactions improved markedly.

TABLE 4
Clinical Rating of Treatment Outcome by Treatment Method and Diagnosis

DIAGNOSIS	TOTAL	DRUGS		
		MARKEDLY IMPROVED	MODERATELY IMPROVED	UNIMPROVED
Psychoneurotic	24	21 (87%)	3 (12%)	0 (0%)
Manic-depressive	20	8 (40%)	5 (25%)	7 (35%)
Psychotic	10	3 (30%)	1 (10%)	6 (60%)
Involuntal	14	4 (28%)	3 (21%)	7 (50%)
Schizophrenic	26	6 (23%)	14 (54%)	6 (23%)
Depression with personality disorder	6	2 (33%)	2 (33%)	2 (33%)
Total	100	44 (44%)	28 (28%)	28 (28%)
EST				
Psychoneurotic	7	5 (71%)	2 (29%)	0 (0%)
Manic-depressive	5	4 (80%)	0 (0%)	1 (20%)
Psychotic	2	1 (50%)	0 (0%)	1 (50%)
Involuntal	5	4 (80%)	1 (20%)	0 (0%)
Schizophrenic	5	3 (60%)	1 (20%)	1 (20%)
Depression with personality disorder	4	3 (75%)	0 (0%)	1 (25%)
Total	28	20 (71%)	4 (14%)	4 (14%)
TOTAL				
Psychoneurotic	31	26 (84%)	5 (16%)	0 (0%)
Manic-depressive	25	12 (48%)	5 (20%)	8 (32%)
Psychotic	12	4 (33%)	1 (8%)	7 (58%)
Involuntal	19	8 (42%)	4 (21%)	7 (37%)
Schizophrenic	31	9 (29%)	15 (48%)	7 (23%)
Depression with personality disorder	10	5 (50%)	2 (20%)	3 (30%)
Total	128	64 (50%)	32 (25%)	32 (25%)

Where patients were combined into 3 major diagnostic groupings—endogenous depressions (comprising the manic-depressive and involuntal categories), exogenous depressive reactions (comprising psychoneurotic depressive reactions, psychotic depressive reactions and depression with personality disorder) and schizo-affective depressions—it may be seen that 66% of the exogenous depressions, 45% of the endogenous depressions, and 29% of the schizo-affective depressions improved markedly. Exogenous depressions have a significantly greater number of marked improvements than both endogenous ($p=.05$) and schizo-affective ($p=.01$).

When drug and EST patients are compared, it is seen that in almost every diagnostic category a greater proportion of patients on EST improved markedly as compared to patients on antidepressant medications. When patients are once again categorized into the 3 major diagnostic

groupings, only in the case of the endogenous depressions is there a significant difference between EST and drugs in terms of number of marked improvements ($p=.05$).

(b) *Symptom remission.* At the end of treatment quantitative scores derived from the mental status examination were studied by means of a covariance analysis to take into account slight differences in the pre-treatment scores. The following results were obtained (see Table 5):

1. Patients treated with EST had significantly fewer symptoms at the end of treatment than patients treated with isocarboxazid ($p=.01$), and had fewer symptoms than patients treated with phenelzine ($p=.1$).

2. There was almost no difference between EST and the imipramine groups on this measure.

3. There were no significant differences among the 3 drugs. However, patients

TABLE 5
Interrelation of 3 Measures of Depression *

		BEFORE	AFTER	ADJUSTED AFTER
MS				
	EST	32.31	22.54	22.39
	Marplan	31.42	27.90	27.91
	Nardil	31.37	26.00	26.02
	Tofranil	30.91	24.58	24.67
DRS				
	EST	94.04	55.92	55.96
	Marplan	95.01	72.14	72.04
	Nardil	97.73	71.88	71.59
	Tofranil	90.87	63.57	63.88
WOI				
	EST	78.81	51.12	49.85
	Marplan	76.48	67.00	66.77
	Nardil	76.19	62.15	62.05
	Tofranil	73.03	58.64	59.95
		MS	DRS	WOI
EST	vs. Marplan	.01	.01	.001
EST	vs. Nardil	.1	.01	.02
EST	vs. Tofranil	NS	NS	.05
Marplan	vs. Nardil	NS	NS	NS
Marplan	vs. Tofranil	.1	.1	NS
Nardil	vs. Tofranil	NS	NS	NS

MS: Mental Status Symptom Rating

DRS: Depression Rating Scale

WOI: Ward Observation Inventory

* To account for initial differences on means covariance technique was employed as described in McNemar, Q.: *Psychological Statistics*. New York: John Wiley & Sons, 1949, p. 318.

treated with imipramine had fewer symptoms at the end of treatment as compared with patients treated with isocarboxazid ($p=.1$).

In general, patients on EST appeared to have the lowest number of symptoms at the end of treatment, patients on isocarboxazid the highest, and patients on phenelzine and imipramine in the middle.

(c) *Changes in clinical depression as measured by the Depression Rating Scale.* When Depression Rating Scale scores of the 4 treatment groups were studied before and at the end of treatment, a covariance analysis revealed that (see Table 5) :

1. Patients treated with EST had significantly lower scores at the end of treatment than patients treated with isocarboxazid ($p=.01$) and phenelzine ($p=.01$).

2. There were no significant differences between the EST and imipramine groups.

3. Once again, patients treated with imipramine had lower scores than patients treated with isocarboxazid, though not significantly lower ($p=.1$).

As in the case of symptom measurement, patients treated with EST had the most successful outcome in terms of the Depression Rating Scale. Those treated with isocarboxazid had the least successful outcome; of the drugs, imipramine appeared to have produced the most successful outcome.

(d) *Changes in ward behavior.* A covariance analysis of ward behavioral data at the end of treatment reveals that (see Table 5) :

1. Patients treated with EST were significantly less disturbed in their behavior at

the end of treatment than patients treated with each of the 3 drugs (EST compared with isocarboxazid, $p=.001$; with phenelzine, $p=.02$; with imipramine, $p=.05$).

2. There were no significant differences among the 3 drugs.

This measure also reveals EST to be most successful, isocarboxazid least successful, and phenelzine and imipramine somewhere in between in terms of changing patients' behavior on the ward.

(e) *Intercorrelations of the various measures.* It can be stated that all 4 measures—global rating of outcome, symptom measure scores, Depression Rating Scale scores, and Ward Observation Inventory scores—point to the same general conclusion: on each measure EST appears to produce the best results, while isocarboxazid appears to effect the least change in the patient.

Table 6 indicates how the global ratings of improvement are related to the 3 quantitative measures. In all cases except for the Ward Observation Inventory scores, the improved, moderately improved, and unimproved patients start with approximately the same score before treatment began, but end with significantly different scores. In the case of the ward behavior measure, the patients, in addition to ending with significantly different scores, also reveal significantly different scores in the pretreatment period. Here the differences between the improved patients and patients who were moderately improved or unimproved at the end of treatment are significant before treatment began, suggesting, perhaps, a poorer prognosis for patients with

TABLE 6
Relation of Clinical Ratings to 3 Measures of Treatment Outcome

MEANS	MARKEDLY IMPROVED	MODERATELY IMPROVED	UNIMPROVED
MS			
Before	31.12	31.45	32.45
After	21.14	26.72	32.17
DRS			
Before	94.39	93.08	96.24
After	55.19	69.92	87.60
WOI			
Before	71.50	79.83	80.03
After	48.32	65.70	75.03

more "sick" behavior at the beginning of treatment.

In terms of intercorrelation of the 3 quantitative measures, Table 7 indicates signifi-

TABLE 7
Intercorrelations of the 3 Quantitative
Measures of Depression

	BEFORE	AFTER
DRS and MS	.38	.82
DRS and WOI	.53	.75
MS and WOI	.45	.81

cant correlations between the Depression Rating Scale, the Ward Observation Inventory, and the mental status symptom rating, both at the beginning and at the end of treatment. The correlations are much higher at the end of treatment, due perhaps to a "halo" effect.⁴

(f) *Side effects.* A side effects protocol was administered by project physicians weekly during the course of treatment as well as during the pretreatment period. Symptoms which were reported or observed during the treatment period⁵ but were not also present before treatment began were considered as side effects and are presented in Table 8.

Although, as is indicated by the table, a considerable variety of side effects was recorded in the study, each side effect was present in only a small number of patients on the various treatment programs. In addition, with very few exceptions, side effects were transient and of a nonserious nature.

Specifically, the following side effects appeared in approximately 20% or more of the patients under each treatment:

⁴ A general awareness on the part of personnel that a patient was markedly improved and his discharge was imminent may have influenced them to rate the patient as "healthier" on some items.

⁵ A detailed analysis of the differences between symptoms of depression ("quasi" side effects) and side effects of medications ("true" side effects) was presented by Busfield, B. L., M.D., Capra, D., M.D., and Schneller, P., M.D., entitled, *Depressive Symptom or Side Effect? A Comparative Study of Symptoms During Pretreatment and Treatment Periods on Three Antidepressant Medications*, annual meeting, APA, Chicago, May 1961.

EST :	headaches, anorexia
isocarboxazid :	shakiness, sweating, weakness, drowsiness.
phenelzine :	dry mouth, sweating, drowsiness, weakness, shakiness, bowel dysfunction
imipramine :	drowsiness, dry mouth, urinary frequency, bowel dysfunction

Of the side effects which could be considered potentially serious, the only observed cases were: one possible convulsion, one choreiform twitch. No hepatic, renal, or serious cardiovascular involvement appeared.

Hypotension has been such a frequently observed side effect that it deserves special comment. We considered a patient hypotensive if his previous normotensive systolic pressure dropped below 80 or if his pretreatment level of equal or greater than 135 experienced a drop of 15% to 25%. Analysis of hypotension in the 4 treatment programs revealed that patients on EST as well as those on each of the antidepressants commonly developed transient hypotension—16% of those on EST, 27% on isocarboxazid, 30% on phenelzine, and 50% on imipramine became hypotensive, but in only one case was this severe enough to cause change of the treatment. In our series, development of hypotension was not dose related; treatment ordinarily consisted of stopping medication for 1 or 2 days to resume it subsequently. In some cases it was felt that treatment could continue uninterrupted, with no harmful consequences.

Analysis of 12 patients dropped for medical reasons among 130 patients reveals only one for hypotension on imipramine. Emergence of other psychopathology was seen in 8 patients, with 2 developing hypomania, 2 anxiety, and 4 disabling symptoms of thought disorder, chiefly paranoid ideation and autism. Worsening clinical course of depression with development of suicidal drive and acidosis in 3 patients on drugs necessitated intervention with EST. Weekly laboratory determinations including hemoglobin, hematocrit, WBC, urinalysis, alkaline phosphatase and bilirubin revealed only transient alterations unrelated to the patient's clinical course on antidepressant medication or shock.

TABLE 8
Reported and Observed Side Effects

SIDE EFFECT	EST N=28		ISOCARBOXAZID N=33		PHENELZINE N=37		IMIPRAMINE N=28	
REPORTED EFFECTS :	N	%	N	%	N	%	N	%
Weakness	2	7	7	21	7	19	4	13
Headaches	8	29	2	6	5	13	2	7
Drowsiness	5	18	7	21	9	24	6	20
Anxiety or Tension	1	4	—	—	4	11	4	13
Dry Mouth	2	7	6	18	11	30	8	27
Sweating	—	—	9	27	9	24	5	17
Disturbed Vision	2	7	2	18	3	8	4	13
Chills or Hot Flashes	2	7	4	12	4	11	1	3
Palpitation	3	11	4	12	4	11	2	7
Shakiness	2	7	10	30	7	19	4	13
Nausea	3	11	4	12	3	8	4	13
Urinary Frequency	1	4	4	12	4	11	7	23
Anorexia	6	21	6	18	4	11	4	13
Pruritis	1	4	1	3	2	5	3	10
Photo Sensitivity	4	14	1	3	—	—	3	10
Tinnitus	1	4	—	—	2	5	5	17
Paraesthesias	—	—	3	9	—	—	3	10
Dizziness	—	—	2	6	2	5	5	17
OBSERVED EFFECTS :								
Tremor	—	—	2	6	1	3	2	7
Muscular Twitch	1	4	2	6	2	5	2	7
Hyperreflexia	—	—	3	9	1	3	3	10
Rigidity	—	—	1	3	1	3	3	10
Convulsions	—	—	—	—	—	—	1	3
Choreiform Twitch	—	—	1	3	—	—	—	—
Confusion	4	14	5	15	5	13	1	3
Falling	—	—	3	9	1	3	3	10
Urinary Retention	—	—	2	6	1	3	2	7
Edema	—	—	6	18	—	—	4	13
Bowel Dysfunction	2	7	6	18	7	19	6	20
Allergic Exanthema	1	4	3	9	2	5	—	—
Hyperactivity	2	7	3	9	3	8	5	17
Scleral Icterus	—	—	—	—	—	—	—	—
Hepatomegaly	—	—	—	—	—	—	—	—
Glossitis	—	—	—	—	—	—	1	3
Vomiting	—	—	—	—	1	3	1	3
Hypotension	N=4		N=11		N=10		N=12	
	25	16	30	27	33	30	24	50

SUMMARY

The effectiveness of 3 antidepressant medications was compared with that of EST in 128 depressed hospitalized patients at 3 state mental hospitals. The results of this double blind study employing 4 different measures of treatment outcome present a consistent trend. They indicate that :

1. In this sample, the 4 treatments produced 50% marked improvement, 25% moderate improvement, and only 25% minimal improvement or lack of response. Although

the absolute number of patients in the 3 hospitals differed, no appreciable deviation from this distribution was found in any of the 3 institutions.

2. There was no difference in treatment outcome between the 33 males and the 95 females. However, patients in the 16-39 age group showed more marked improvements than older patients. In addition, exogenous depressions responded significantly better to the 4 somatic treatments than schizo-affective and endogenous patients.

3. Patients treated with EST manifest a higher degree of improvement than patients treated with the 3 antidepressant medications. Specifically, a higher proportion of EST patients improved markedly than patients on drugs. In terms of symptom remission, decrease of depressive affect, and decrease in behavioral disturbance, EST patients in general fared better than the other patients. However, this was significant in all cases only in comparison to patients treated with isocarboxazid. Patients treated with imipramine revealed on several of the measures higher degrees of improvement than patients treated with the 2 MAO inhibitors.

4. When EST patients were compared with all drug patients to study selectivity of the 2 somatic treatments, it was found that younger patients, male patients, and patients with exogenous and schizo-affective depressions appeared to do as well on drugs

as on EST. In the case of females, older patients, and endogenous depressions, EST showed significantly more marked results than the antidepressant medications.

5. The 4 measures were very consistent in revealing this pattern of results, with one exception: phenelzine appeared to show a higher degree of effectiveness as measured by the global ratings of outcome than as measured by the 3 quantitative indices. More cases will be required to account for this discrepancy. In other respects, the 3 quantitative measures showed very high intercorrelations, and were strongly related to the qualitative ratings of treatment outcome.

6. A relatively low frequency of side effects was recorded during the course of the study. These were largely of a transient nature, and not dose related.

FAMILY CARE OF THE MENTALLY ILL IN NORWAY

JOHN EISELE DAVIS, Sc.D.¹

The Dikemark Mental Hospital, one of the largest in Norway, has a patient population of 800. Outside the hospital in nursing homes are approximately 950 general medical, surgical and senile patients. There are, in addition, about 950 patients in family care. Both of these groups are under the medical supervision of Dr. Arne Sandbu, staff psychiatrist at the Dikemark Mental Hospital and an imaginative and conscientious specialist in home care whose psychiatric horizon has extended to conferences and studies with Jung in Switzerland and Dr. Walter McClay in England. In another mental hospital at Lier, Norway, there are approximately 175 patients in private care as compared to more than 800 in the hospital. Throughout the entire hospital system in Norway there are more patients being cared for and treated outside the psychiatric hospitals than in these institutions. With the exception of the approximately 2500 patients at Geel, Belgium, the numbers in private care in Norway exceed on a population basis those in any other country.

This stress on care outside the institution reflects a social philosophy of mental treatment and rehabilitation which is bound to attract the interest of hospital administrators in other countries who are attempting to bring this problem back to the community and to organize all practical resources at this level, especially at this time when the public is being awakened to its opportunities and responsibilities for effective social rehabilitation.

This impressive innovation in the balance between institutional and home treatment characteristic of the Norway health system appears to be the result of many and varied factors including the basic personality of the Norwegian, the historical evolution of his hospital system and the steady growth of social appreciations and practise emanat-

ing from both a realistic and idealistic leadership.

In discussing this problem with Dr. Carl Evang, Director General of Health Services, the writer expressed the opinion that the unusual support of the public in these mental health improvements in Norway was due to the strategy of providing intensive orientation of the public leading to the situation in which the man on the street *requests* a constantly higher plane of services rather than the opposite situation in which a medical hierarchy tells the public that they *should have* these services. Dr. Evang stated that while the medical authorities constantly aimed to inform and stimulate the public, it was the personality of the Norwegian himself, his incessant desire to improve, to help himself, to measure up to the social opportunities of a new world that accounts in a large measure for the consistent progress of Norway's health system. He accepts these social aims as legal and moral rights to be exercised or lost.

Dr. Lohne Knudsen, director of the psychiatric division of The Health Services of Norway who has been a most important factor in the current developments and philosophy behind the home care services, reminds us of the evolutionary changes in the laws pertaining to extramural care and treatment.

The Frostating Law in the 10th century was the oldest edict in Norwegian legislation which decreed that anyone could freely bind an insane person, take him to court (Ting), and there deliver him to his relatives who were obliged to take over the responsibility for him. The first asylum in Norway was founded in 1741. It was in the prison of Christiania together with a poor house. Only later in the 18th century, and after Pinel broke the shackles of the insane, and Esquirol worked out plans for separate institutions, asylums in Norway began to take on the appearance of hospitals. But during the Middle Ages, the majority of the mentally ill were dependent upon care outside institutions. In Norway, as in other

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countries, confinement in small dark rooms for years, even cellars and barns, was the general practise. The supervision of doctors was not considered necessary. An account given by Professor Frederik Holst in 1828 of the general conditions of the insane in Norway shows that of the 1909 certified insane, 72 were in the 7 existing "madhouses," the rest were cared for by their families or by strangers or boarded out by the parish as paupers. In the census taken in Norway in 1845, there were 4290 certified insane persons, and of these about 3000 were placed in private custody by the charities, about 1000 were in temporary lodgings as paupers, while only 147 were in the "madhouses." It was therefore most natural that Dr. Herman Wedel Major considered it of the utmost importance to bring the family care system under control by the Lunacy Treatment Act he proposed in 1848 and enacted into law by the Norwegian Parliament. This law included the interdiction against any person being confined in custody without his being reported to an authorized doctor whose duty it was to investigate whether the precautions were justified and adequate. The Act also included rules enforcing the payment of care and treatment by the authorities of the town or province. An act of 1891 provided for better regulation and supervision and payment by the state of four-tenths of patients' care. These changes laid the foundation for the construction of new hospitals and the improvement and expansion of the old hospitals.

Dr. Harold Arnsen, in an article in the *Journal of The Norwegian Medical Association* in 1907, opposed the expansion of Norway's asylums which had only 2209 beds in 1905 in these words: "For a population such as ours composed mainly of farmers where rural buildings are only in exceptional cases concentrated in villages, family care is the most natural, the cheapest and the best care for the patients in question."

In 1913 a committee was appointed to revise the lunacy treatment legislation. This committee was in definite opposition to all insane persons being cared for in hospitals, and added that family care must be supervised by the medical authorities. It con-

sidered that more than 3 persons in a home was undesirable. The suggestions of this committee were made a part of an appendix to The Lunacy Treatment Act of 1848 which authorized family care, and payment terms were regulated by an additional act of June 5, 1925.

There have always been many insane persons under extramural care, but only during the last 10 years has the figure reached about half the number of all certified mentally disordered persons.

There were, in December 1953, 6057 patients in all under this form of care; 40% of these were in family care within their home district, a further 30% within their home province, while about 30% were boarded out outside their province. The latter was the case especially of patients from Oslo and Bergen, two of the largest cities in Norway. More than 50% are found in one-patient homes.

More important than pre-care is after-care to assist patients to meet the adjustments in the community and remain outside. In 1952 Dikemark Hospital opened an aftercare office in Oslo. These efforts have been organized and legalized by The Mental Health Act of April 28th, 1961 (see Addendum). As part of this plan, aftercare hostels are being planned with accommodation for 10-25 patients, open so that patients can come and go, but are, at the same time, under supervision.

With these responsibilities, the mental hospital becomes the center of greater psychiatric activities which embrace all the care of the patient from the onset of his illness until he is cured or improved so as to be able to manage himself in the community.

The cost of keeping a patient in a family runs between 300-350 Kroner per month, not including clothing and medication. The cost in the hospital is approximately 30 Kroner a day, about three to four times as much as in the private family. The nursing homes in Norway are comparatively new, added to the hospital system during the past 10 years. Each home in Oslo, costing about 600,000 Kroner, is built by a private party with a loan from a private bank guaranteed by the City of Oslo; 15000 Kroner must be paid on the principal yearly on the

5% or 6% loan. The cost per patient in these nursing homes is higher than in private homes—20 to 25 Kr. per day exclusive of clothing and medicine.² The state pays four-tenths and the municipality of Oslo pays six-tenths of the cost of operation. The nursing homes are controlled by a husband and wife, either of whom must be a registered nurse. The male head is termed a Deacon and the woman head a Matron. Twenty patients are treated in each of these homes. There are 7 working personnel: the Matron and husband, or the Deacon and wife, a cook, a nursing aide and 3 maids. There are 10 new homes, all of the same standard type of architecture, two stories, plain, straight yet attractive lines. The homes are furnished with Norwegian furniture, functional and most comfortable; they are immaculately clean and the housework is most efficiently organized. Well ventilated, they are situated so as to afford a fine view of the surrounding country.

The regulations for the family care of The Lier Mental Hospital contains the following provisions: the guardians—only men and women can be chosen who are suited for it and who are known as able and respectable persons. They must be temperate and of good moral character and capable of giving the patients suitable work or keeping them otherwise occupied.

Applications for sanction as a guardian are sent to the medical superintendent of the hospital on a form outlined by the Ministry of Health. If satisfactory, the guardian and his home are then sanctioned by the hospital's Board of Control following the proposal by the medical superintendent. A written authorization detailing the number of patients is then given to the guardian. A contract will be made concerning the guardian's compensation for each patient, based on the patient's condition and ability to work and also the conditions in the proposed home, whether the patient would have a single or double room, *etc.* Three rates, depending upon the patient's work level and whether he requires nursing care, are provided. The contract can be cancelled by the medical superintendent if he finds

the patient not suitable for home care or that the condition of the home or the personality of the guardian is inimical to the treatment.

The guardian is obliged to give the patient suitable accommodations, keep his room sufficiently heated, and give him adequate and good food. He must keep the patient's clothes clean and in good condition. Not more than 3 patients can be taken into one home at the same time, but under special conditions, 5 may be allowed. Where there are more than one patient, they must be of the same sex. The bedrooms must be big and light so that at least 36 sq. ft. of floor space and an average height of 6 ft. (*i.e.*, 216 cu. ft.) are available for each patient who is sleeping in the room.

The rooms must be attractively decorated and properly equipped with beds and other necessary furniture. Where there is no running water or wash basins, each patient must be provided with a basin and two towels. Patients must be properly protected from fire or other emergency.

The Norwegians are very good housekeepers and insist upon cleanliness above all. The patients' rooms must be aired daily and the floor washed. The guardian must see that the patients keep themselves clean. The patient must be given at least 3 main meals a day and coffee in the afternoon. The guardian must take care that the patients eat sufficiently. Any form of alcohol is strictly prohibited.

As far as possible, the patients must be treated as members of the family, must have the same food as other people of the house, and at the same time, and preferably with the rest of the family. It is the guardian's responsibility to see to it that the patients must be encouraged to take part in the daily work together with the people in the house. Care must be taken that they receive necessary rest. The guardian must set a good example to the patients in becoming and controlled behavior. They must deal with the patients in a quiet and kind manner, and try as far as practicable to accommodate themselves to the patient's peculiarities. They must win the patient's confidence and devotion but at the same time see that they are respected. Any form of punishment is strictly prohibited.

² The currency exchange rate of the Norwegian Kroner is approximately a little over 14 cents to the American dollar.

Each home should have the supervision of a doctor and nurse at least once a month. The nurse inspects their clothing, room, boarding, *etc.* She should weigh the patient at least once every 4 months. When necessary, the Board of Control or its individual members will inspect the homes. The patients have an opportunity of bringing any complaints to the Board.

Effective supervision is looked upon as requiring more than control but, in addition, support and assistance, motivation and stimulation for socializing efforts. The second major problem in the nursing homes especially is the lack of stimulating activities ; there is too much sitting around. This situation is being remedied by the provision of an occupational therapist. In the United States this problem could be well taken care of by the employment of a corrective therapist whose training includes both therapeutic exercise and psychiatric socialization. There are also a few of those boarded out who are unfitted for home life because of periodic disturbances and uncleanness. The ideal number of patients for the private home is 1 and not more than 2, because in some rare cases a greater number creates a weakness in the system.

Another indirect problem which contributes to the weakness of the Norway system is the result of overcrowding in the hospitals. In Norway there are only 19.2 approved beds in mental hospitals per 10,000 inhabitants. Since there are 50 mentally sick per 10,000 population, this situation creates a pressure to refer to private homes patients who should go to hospitals. This imbalance is being overcome by present plans for increased hospital bed capacity.

Still another problem which is being attacked as a problem of behavioral science has to do with the psychiatric evaluation of the patient's suitability for home care. Benefitting by early trial and error experiences and after consultation with others in this field both in Norway and abroad, Dr. Sandbu has organized a detailed personality inventory in line with Adolf Meyer's psychobiologic approach to an understanding of the life history of the individual, detailed in The Phipps Personality Inventories, Johns Hopkins Hospital. Information is elicited as

to the individual's ability to care for his daily needs, feeding, dressing himself, sleeping habits, his general orientation, his attitudes, the level of his activity, his interests, working level and adjustment indices. More searching information is sought as to any manifestations of psychotic behaviour that would affect his competency for private care. These areas of diagnosis and prognosis are opening a challenging and rewarding area of psychiatric information at the behavioral level and in the words of one of the psychiatrists "are adding to their social sophistication."

The hospital in Norway appears to assume a more specialized function than a centralized treatment center. One who views its evolutionary growth and development is impressed with its early roots in extramural concepts. Before the organization of hospitals, it was found necessary, as has been pointed out, to place the "lunatic" in the home. This early practise led to the development of home care as a part of the social climate and culture, gradually formalized in the legal enactments which made it obligatory that society assume this responsibility. With the more scientific organization of mental hospitals throughout the world and the centralization of consequential increased treatment facilities in Norway's mental institutions, it would seem quite natural that this country would return the responsibility for full treatment and rehabilitation to the hospital. Norway has countered this trend prevalent in so many parts of the world, and it is this difference which offers a challenge. Today, in Norway, the mental hospital functions as a treatment center for the acutely disturbed and the chronic patients ; added to this is its progressive and significant function as a diagnostic and prognostic agency, a clearing house for those who can benefit by care in the home outside the institution. Once the patient is assigned to the home, the hospital assumes the pivotal responsibility to provide careful medical supervision for him and the home, and in this way extends its practical treatment and teaching influence into the community.

The psychiatric aim and stress is to keep the patient out of the hospital, and the growth of the simple yet functional influences

in what William Shirer calls "a pure democracy" has created an atmosphere in which it seems only natural to allow the mentally sick "to go back home." The modern conflict between institutional versus non-institutional psychiatric care and rehabilitation in Norway seems to be decided in favor of the home, and it might be added that this decision meets with the full approval of its citizenry.

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ADDENDUM

Current plans for the development of Norway's mental health services are incorporated in the new Mental Health Law which was passed on April 28, 1961 and made effective as of July 1, 1961.

In general the law provides psychiatric pre-care, examination, treatment and aftercare. Every county is given the responsibility for the formulation and presentation of a plan for a complete psychiatric service for its citizens. Final authorization of the plan must be made by the King.

Costs of construction of psychiatric facilities in accordance with the authorized plan to the end of 1965 will be paid by the state, the county or private health associations, the state paying 75% and the county or private health associations the remaining 25%. The maintenance cost will be carried by compulsory sick insurance as long as the patient is recognized as a treatment obligation. When the patient is considered chronic his treatment cost is paid by a special fund from the disabled person's insurance. One of the most significant accomplishments of the new law from the social and economic standpoint is the parity afforded the mental patient, erasing the previous discrimination between the physically and the mentally sick as to apportionment of funds for their care and treatment. Mental patients in private care and in nursing homes will be included in the legal category of chronic patients receiving

medical control and supervision from the local mental hospital. When necessary and without undue legal process they can be brought back to active treatment in the hospital; private care and nursing becoming a part of the mental hospital responsibility through legal enactment. In the event that the patient in private care is far removed from a mental hospital the county psychiatrist assumes the responsibility of his supervision.

A most important committee, the Board of Control, is set up in the hospitals and when necessary in the counties outside of the hospital. The Board consists of a lawyer who acts as chairman, a physician usually a psychiatrist and a woman generally a housewife. The motif of the law states that ideally one of the men should have some practical knowledge of vocational affairs, trade life and job opportunities. This Board exercises control over all private homes and nursing homes having mental patients, carrying out periodic inspections and making necessary recommendations. The Board gives a special character to the efforts of the community to preserve the initiative and the rights of the patients. The Board considers all admissions and discharges. The housewife stresses the creation of a wholesome home atmosphere as an essential for the adjustment of the patient to hospitalization or to the home outside his own home. The lawyer clarifies legal aspects and may present the request of the patient for discharge to the court in cases in which his request has been denied by the Control Board.

Dr. Lohne Knudsen, Director of The Psychiatric Division of The Health Services of Norway, states that of June 1961, there are 5000 patients in private care in Norway, 3000 in nursing homes and 8000 in overcrowded mental hospitals with 7000 authorized beds, and that the psychiatric services have 5 years in which to get sufficient money for 10,000 beds in mental hospitals. At present about one-third of the patients in private care are living with their own families. Patient care in private homes is confined mostly to country districts. It is becoming increasingly difficult to place these patients in the larger cities, especially Oslo.

FIVE PSYCHOTIC SIBLINGS

SVEN E. JENSEN, M.D.¹

A family heavily loaded with psychotic conditions has been thought of interest, although such a situation is not unique inasmuch as 5 siblings with psychotic episodes have been described by Osborn (10). Some of the pertinent psychodynamics will be described in discussing the possible etiology.

The family were farmers of German origin and Roman Catholic denomination. They came to Canada from the U. S. A. in 1919. The 7 children aged 25 to 37 were all born in Canada. They were full siblings and were all seen by the author when the 2 healthy siblings consulted me with an understandable concern about their prognoses.

The father, now in his early 60s, has played the role of a patriarch in the family, deciding what everyone would do, how and when it had to be done. About 10 or 12 years ago, the father was operated on for appendicitis. After that he was unable to work for 5 years, and restricted his activities to directing the farm work and family life from a chair. Only for the past 5 to 7 years has he been able to resume work but not on a very large scale.

The mother is rather obese. She had phlebitis after her third child, and after that she remained ailing and underwent several operations. She had the burden of bringing up the children until they were able to work. In doing so she was quite permissive. The children were considered as easy to bring up, but not much initiative was left to them. The socialization of the family appears to have been very poor all along, the father being conscious of his inability to speak English. He was very ill at ease in trying to define ownership of the family property. When one son (UR) married 6 or 7 years ago, the father bought a half-section of land, gave one quarter to his son and kept the remainder for himself, hoping that his son would be able to buy it in a few years. The quarter given to the son has no

buildings and his family live on the quarter belonging to the father. The son sees small prospect of being able to buy the quarter-section with buildings.

In the family setup the peculiarity should also be noted that the 3 girls and one son (AR) are all married into the same family, to 4 siblings. These are ambitious farmers, who have had their own difficulties, but apparently have been able to settle their problems successfully.

Case History—The Five Patients :

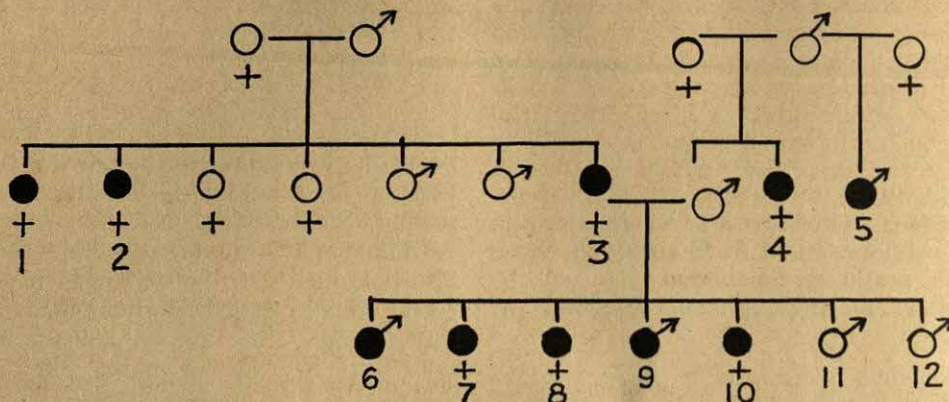
1. L.S. The third oldest of the children suffered from Sydenham's chorea at the age of 5 and had numerous relapses. Consequently she never attended regular school, and the mother states that she was advised by her physician always to give in to L.S.'s wishes lest she would cause more "nervous relapses." This caused a difference in the mother's attitude to her and to the rest of the children, the reason for which was never explained to them and which they all experienced as most frustrating and upsetting.

L.S. experienced her menarche at the age of 13, and in contrast to her sisters she never suffered from dysmenorrhea, but she says that although she went out with "lots of men" she never felt confident in their company. She went with her husband for about 1½ years before they married, but had known him most of her life.

She was first seen at the age of 26 when she was admitted to hospital because of depression of gradual onset, restlessness and feelings of inadequacy and guilt in connection with the birth of her second son 2 months previous. She had made a vague attempt at suicide 2 days prior to admission.

She was fully oriented and with intact memory although the powers of concentration were somewhat limited. She cried in an explosive way unrelated to the conversation and complained of hallucinations in the nature of voices calling her name. She felt that everybody was talking about her. The husband had been unaware of any changes in her personality up to 4 days prior to admission, but the patient later recalled that she had felt miserable for weeks and had been hallucinating when the baby was born. The last days before admission she had appeared bewildered and without peace of mind. The patient received 2 ECTs with good

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1. Had "nervous breakdown" after childbirth and was admitted to mental hospital where she died from T.B.
2. Was "mental for a while" but recovered.
3. Nervous breakdown after childbirth, recovered.
4. To mental hospital.
5. Nervous breakdown after accident with back injury, recovered.
6. }
7. }
8. } The siblings described in text.
9. }
10. }
11. Healthy, has had rheumatic fever.
12. Has asthma, is allergic to house dust.

symptomatic improvement; her vagueness and confusion cleared although she still complained of hallucinations and delusions. She soon became anxious to go home and left within 2 weeks of her admission. When seen 4 months later, she appeared dull and changed in personality, but she had no hallucinations and in the 2 years since hospitalization she has not required further psychiatric treatment.

2. U.R. This 29-year-old married brother sustained a back injury in the winter of 1955-56 and on July 15, 1956 he was admitted to the local hospital for traction therapy of his disc-syndrome. After one week in hospital, the patient suddenly developed a pain over his heart and said that he heard church bells and doves and felt that this was his calling to be a priest. He took the crucifix off the wall and held it against his chest praying the rosary repeatedly. The next morning he was found to say the rosary continually and he was at this time started on Largactil. However, this seemed to have little effect and one morning shortly after he was found wandering out of the hospital praying. He was, however, satisfied when given a Bible and for the rest of the day he read the Bible to the children. At this time, he developed a herpes zoster on the right side of his chest.

Although he appeared to be settling down in the following days, his mind was still wandering, and he expressed concern about having had sexual intercourse with his wife who was

then 7 months pregnant. At this time, he was transferred to the psychiatric clinic where he was found to be disoriented and confused, revealing hallucinations and stating that he felt depressed because God was not with him.

He was treated with ECT and in the following weeks improved so well that he was referred to the neurosurgical ward for operative treatment of his disc-syndrome. He again became psychotic, this time with hallucinations of taste and smell which made him think that his food was poisoned. He was readmitted to the psychiatric unit and once more had ECT with rapid improvement and about 2 months after his first admission, a disc operation was done successfully.

When seen a year later, he appeared well but stated that he still found it hard to meet people and indeed found it difficult to decide to come back for the follow-up interview, but his wife, wanting a trip to the city, had pushed him.

He was again admitted for a short period in 1960.

3. R.S., aged 30, the next in order of the siblings, had a grade VII education. She had then left school in order to work at home, but had been careless about this work although she was now perfectionistic in her own home. She used to side with her father in the family disagreements although she explains that he was strict and that she was scared of him.

She experienced menarche at the age of 13,

and this shocked her so that she cried. She could not believe that it was normal and thought that she had injured herself.

She married at the age of 24 after 2 years courtship. Her husband is 2 years older than she. She has proven frigid in marriage. This sister experienced her psychotic episode in October 1955 after the hired girl had left and she suddenly felt helpless left alone with a 3-week-old baby. The children got on her nerves and she would scream at them.

She suffered from insomnia, irritability and excessive worry and also complained of a group of fears, mostly generalized or in the nature of a fear of "going out of my mind." She was quite conscious of the family pattern of *post partum* illness.

This patient responded fairly well to a few psychotherapeutic interviews and she was never hospitalized. A follow-up in January 1957 found her to be in satisfactory mental health. "She seems to be talking all the time. She is just babbling about everything. I guess she was always that way," commented her brother U.R.

4. Y.S., the second youngest of the children, is said to have been the least shy of them all—quite talkative and very popular at dances. She was 26 years old when first seen for psychiatric treatment. She had been married for 7 years to a husband 6 years older than she, and had 4 children, the oldest 5 years, the youngest newborn.

About her childhood, she explained that she always felt lonely. She could never laugh with others, and she remembers being spanked by her mother for disobeying at the age of 10. She has resented her sister L.S. for always getting her own way, since she, as the other siblings, had not been told the reason for this.

Her menarche occurred at the age of 13, and the menstruations have been associated with dysmenorrhea.

She presented herself with the complaints of poor sleep, crying spells, restlessness and confusion. She was irritable towards her husband, who could not understand her and she thought that she was not a fit mother to her kids. She wondered during the initial interview, "Why am I not like other people?" She complained of a depressed mood, feelings of people poking fun at her, talking about her and leaving her with the feeling that she cannot do anything right. She was sleeping poorly. This patient was treated with a short course of psychotherapy on an outpatient basis only.

5. R.R. was the 25-year-old single "little brother." He was said always to have been shy and never a good mixer (and the father

at this point explained that he himself had been very shy when he was about the age of his son. This was at the time he came to Canada and did not speak English. He did not talk to other people unless they addressed him and even then it was painful to him to have to answer.) The mother stated that for the past year she had found her son more distant than usual. When talked to, there were times he would not answer and he seemed too much absorbed in his thoughts. Usually he would be slow in giving an answer, but would finally do so.

Prior to admission, he had been looking feverish for a couple of days, and had complained of pains in the stomach and a poor appetite for a couple of weeks. Mental disturbance was first noted when on the night before admission he woke up the parents by coming into their room in a very upset and confused condition and explained something about a fire going on and wanting to see a priest right away. On admission he was in the condition of catatonic stupor. Most of the time he would stare right ahead without answering questions or answering them slowly after a long delay. He was disorientated as to time, place and person, and appeared very anxious and fearful. He was apparently hallucinated on several occasions, speaking about bugs and snakes, and stating that he was in hell. He was given a series of 11 ECTs, in the beginning on a daily rate and later, 3 times a week. On this therapy, he soon cleared up and became rational, oriented and quite pleasant in a rather shy and timid way, socializing mainly with his brother who at this time was still in the hospital. As a matter of fact, the parents first thought that R.R.'s condition had been brought on by seeing U.R. psychotic in the local hospital, but in their usual inconsistent way they later decided that it was caused by religious difficulties in connection with a mission in the parish.

When discharged in September 1956 he showed no psychotic symptoms, but was withdrawn and seclusive, stating that he had no difficulties now and that it was no use speaking about personal matters, that they were not important.

This patient was admitted again in 1959 at which time the psychosis was considered precipitated by the death of a close friend. He improved on ECT and Stelazine but had to be admitted again in 1960.

DISCUSSION

This family then presents a great number number of psychotic episodes in 2 genera-

tions (since the family immigrated at that time, it has not been possible to trace the family history further back). Many of these have occurred in women after childbirth. All the conditions occurring in the second generation have been diagnosed as schizophrenia or schizophrenic episodes. The diagnoses of the conditions in the first generation are unknown. However, without going into details about the differential diagnostic criteria for schizophrenia, it should be noted that the term schizophrenia here is used in the rather broad sense in which it is commonly used on this continent. At the present state of our knowledge, it might prove more useful to refer to these conditions simply as psychotic episodes.

The family setup could be discussed in the light of what has in later years been described as schizophrenogenic, although this term is neither well defined nor well established. True, the concept of the schizophrenogenic environment usually considers that the mother is the pathogenic figure (5), but this is by no means generally agreed upon (7). Many authors, however, have questioned the hypothesis of a schizophrenic environment. Thus Langfeldt (6) "thinks it is wise to state merely that a mentally healthy and socially satisfactory environment probably tends to prevent the development of a schizophrenic process, while unsatisfactory factors may precipitate such a process." Jackson, *et al.* (4), have formulated the problem of how much the observer's bias in favor of his patient influences his picture of the parent or parents in these strictly subjective studies; and finally some authors, *e.g.*, Neilsen (9), have been unable to find any common characteristics in the attitudes of the parents.

Other authors with Rank (11) have been unable to exclude a hereditary influence since this influence merely predisposes the individual for this type of reaction pattern, and since as pointed out by Hendrickson (2) some of the descriptions of the parents given in the studies of the schizophrenic's environment suggest well compensated adult schizophrenias. One cannot but agree with the latter argument when one reads the following description of 12 fathers (7):

Nine showed notable defects in reality test-

ing that affected the family life markedly and perhaps influenced the mental disturbances of the children. Of these 9, at least 4 were paranoid both in regard to suspiciousness and in their type of thinking with which they expected their family to agree. Another was probably psychotic, but in an ill-defined way. One father was unable to modify his way of living and his opinion of himself after unsurmountable business reverses. He failed to recognize that he was a serious drain upon the family resources and an abysmal failure, rather than an important or great man, as he continued to convey to the world. Two or three, unable to recognize or counteract their wives' fantastic ideas, abetted them as if living in a *folie à deux*, producing an unrealistic environment in the home.

It would appear that those of the above fathers who were not overtly psychotic exhibited what has been referred to by Arieti (1) as an "externalized psychosis" by which Arieti means that the patient succeeds in changing and manipulating his environment according to his bizarre wishes, and therefore has no need to develop overt psychotic symptoms. Through his manipulations, he is able to organize a little world where everybody else has to respect his eccentric wishes. Arieti points out that these persons often create situations which will precipitate or engender psychoses in other people.

The father of the family here discussed seems himself to have exhibited an "externalized psychosis"—at least the way he rules his little kingdom from his chair, tolerating no contradictions, personal opinions or interference from outside; and distributing farmland, *etc.*, in a confused manner would suggest this.

It would however appear that this or other "psychodynamic interpretations" in no way rules out or contradicts a hereditary or even a biochemical "explanation." Certainly the genetic factor at best is only a predisposing, not a causal one, as pointed out by Huxley (3), one and the same genetic outfit will give different effects in different environments. In other words an individual possessing the genes characteristic of schizophrenia may develop a schizophrenic condition in one environment and not in another. Obviously such a theory must stimulate us to investigate further which environmental factors may be disposing for

schizophrenia and which may be prophylactic. Such a combined genetic-environmental approach is not necessarily opposed to the school that considers a somatic etiology to schizophrenia. In the same way as it is generally agreed that somatic conditions such as peptic ulcer, *etc.*, can develop on a psychic basis, it might well be that emotional factors could cause alterations in the metabolism which in turn "caused" or precipitated the psychotic symptoms. In the light of modern findings this would not appear to be too theoretical a concept. Certainly with increased emphasis on body mind relationship it should be understood that this relationship does not work one way only, but is reversible.

SUMMARY

A family is presented in which 5 of 7 siblings and 10 of 17 members of the last 2 generations have had psychotic episodes. At least 5 members have experienced their mental illness in connection with childbirth, and 2 in connection with back injury. It

is suggested that our interpretation does not rule out a hereditary or somatic concept.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

CHARACTERISTICS OF CHANGE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT

DONALD R. GORHAM, Ph.D.,¹ AND BARBARA J. BETZ, M.D.²

A Nurses Behavior Chart (Figure 1) which contains 44 items of psychiatric behavior has been used at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital since 1914(1). It is a graphic chart on which the nurses' daily observations of the patient are recorded, supplemented by descriptive notes of the patient's behavior. It is not designed for recording motivations or subtle interpretations of behavior. There exist subtle differences in behavior which are of much psychiatric importance, but which are not conveniently observed and described in uniform ways by different nurses. The items on the chart are not expected to give a complete record—they are samples of behavior which can be definitely observed by the nurse, and were selected as suitable for marking on the chart. This chart has proved to be a sensitive indicator of changes in the patient's condition both in favorable and unfavorable directions. Such data made possible a study to determine the patients' symptoms which change during the course of treatment.

In former studies utilizing the Nurses Behavior Chart and the Strong Vocational Interest Blank, Whitehorn and Betz(5, 6) have demonstrated differential psychotherapeutic treatment effects according to physician's personality type. Gorham and Overall (2, 3, 4) have found that change-sensitive symptoms may be isolated by factor analyzing the items of psychiatric rating scales. In this study, the dimensions of change found by factor analyzing the items of the

Nurses Behavior Chart will be reported.

Behavior ratings on a sample of 100 schizophrenic patients were averaged for each of the 44 items for the first and last weeks of hospitalization. This sample was drawn at random from 256 available cases. It consisted of 32 males and 68 females ranging in age from 12 to 62. The ratings were averaged over the 7-day period to increase the reliability of the measures and to emphasize the more enduring and characteristic dimensions of patient symptomatology. It had the additional effect of reducing negative correlations between antagonistic symptoms and behaviors since day to day fluctuations differed from patient to patient.

The mean ratings on the 44 measures, based on the initial week of hospitalization, were intercorrelated and a principal axis factor analysis and normalized varimax rotation were accomplished by digital computer. Since the factor analysis and rotation were made without consideration of the nature of the variables involved, a high degree of objectivity can be claimed for the results.

Table 1 shows the rank order of all items with a loading of more than .30 on each of the ten rotated factors. Loadings above .50 are indicated in the table. It is apparent that 8 of the 10 factors can be defined by a cluster of 2-4 items with very substantial loadings. The factors thus isolated may be described as follows: 1. Asocial acting out, 2. Motor retardation, 3. Psychotic deterioration, 4. Agitation, 5. Mental health (patient assets), 6. Unusual motor behavior, 7. Thought disturbance, 8. Depression, 9. Not definable as a meaningful symptom area, 10. Lack of initiative.

The extent to which the factors are use-

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ful in characterizing the changes occurring during the treatment was determined by testing the change on each factor (defined by its 3 highest items) against a separate

TABLE 1

Rank Order of Items on Ten Rotated Factors (Loadings above .50 are indicated)			
1		6	
Masturbating	.82	Prankish	.77
Combative	.79	Ritualistic	.76
Resistant	.62	Impulsive	.51
Angry	.58	Mannerisms	
Irritable		Distractible	
Impulsive		7	
Panicky		Delusions	.82
Confused		Hallucinations	.60
Brooding		Suspicious	.54
		Confused	.50
2		Apprehensive	
Motionless	.93	Resistant	
Eyes closed	.88	8	
Mute	.82	Sad	.68
Indifferent		Weeping	.60
Incontinent		Apprehensive	.52
Not talking		Brooding	.52
Brooding		Resistant	
3		Preoccupied	
Untidy	.85	Lacking initiative	
Exposed	.84	Agitated	
Hallucinations		9	
Mannerisms		Corresponding	.82
4		Somatic complaints	
Irritable	.74	Off-ward	
Agitated	.71	10	
Restless	.60	Lacking initiative	.67
Distractible		Games (neg)	
Talking		Talking (neg)	
5		Reading (neg)	
Cheerful	.64	Preoccupied	
Calm	.63	Picking, rubbing	
Reading			
Industrious			
Not apprehensive			
Not agitated			

criterion of change. The criterion was the final psychiatric evaluation of the Clinic which assigned grades of improvement or unimprovement to each patient at the end of treatment. This judgment, made by the Chief Resident, with the approval of the Chief of the service, is based upon a decrease in clinical manifestations of illness, an increase in socially effective behavior in the hospital, evidence of patient's ability to get along with others and live in the

community as manifested in home visits, shopping trips, *etc.*, and evidence of changes in personal attitudes toward greater self-confidence and initiative, indicating progress in personal problem solving. For the purposes of this study, the patients were dichotomized into improved or unimproved (including no change) on both the criterion and the factor change-scores. The 2 x 2 chi squares between psychiatric evaluation of improvement and factor scores based on the Behavior Chart data are shown in Table 2.

TABLE 2

Validity of Factor Scores as Measures of Change
(Criterion : Phipps Clinic discharge evaluation)

FACTOR	X ²	P
1. Asocial acting out	7.70	.01
2. Motor retardation	5.19	.05
3. Psychotic deterioration	5.36	.05
4. Agitation	2.61	—
5. Mental health (assets)	7.36	.01
6. Unusual motor behavior	1.05	—
7. Thought disturbance	13.23	.001
8. Depression	13.84	.001
9. (Not interpretable)	5.14	.05
10. Lacking initiative	18.23	.001
Total pathology (excluding 5 and 9)	11.84	.001

It will be noticed that factors 1, 7, 8 and 10 indicate pathology in schizophrenic patients which is highly sensitive to change during treatment. Item 5 indicates certain patient assets which develop positively as pathological symptoms decrease. A combination of the four areas of pathology and one area of "health" should provide a highly reliable index of change associated with treatment. Such an index could be based on 14 items of behavior which can be observed and rated by the nursing service, *viz.*, combative, resistant, angry, delusions, hallucinations, suspicious, confused, sad, weeping, apprehensive, brooding, lack of initiative, cheerful and calm. Further studies are needed to validate these findings. If nurses' ratings on these items can produce a reliable and valid index of patient change, it has great potential usefulness both to augment and confirm clinical evaluation. In research studies such an index could be used where staff limitations preclude the use of clinical assessment teams.

SUMMARY

Forty-four items of a Nurses Behavior Chart used at the Phipps Psychiatric Clinic of Johns Hopkins Hospital were factor analyzed, based on a sample of 100 schizophrenic patients. Ten orthogonal factors which were extracted indicated the dimensions of schizophrenic illness. Five of these factors (based on 14 behavior items) provide an index of treatment change which is highly significant when compared with clinical judgment of improvement. The index has clinical and research potential.

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THE USE OF A PHENOTHIAZINE COMPOUND IN THE REHABILITATION OF SCHIZOPHRENIC PATIENTS

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As part of our continuing investigation of the various phenothiazine derivatives in the rehabilitation of schizophrenic patients, we have studied the use of perphenazine² in 54 consecutive female psychotics, ages 18 to 56, admitted to our Admission Service for the first time or readmitted following a relapse. There were 26 cases of schizophrenia of the paranoid type, 11 of the catatonic, 13 of the chronic undifferentiated, 2 of the acute undifferentiated, and one each of the hebephrenic and simple types.

Perphenazine was given orally, 4 mg. t.i.d. the first day, 8 mg. t.i.d. the second, and 12 mg. t.i.d. from the third through the 21st day. When there was resistance to the ingestion of medication initially, perphenazine concentrate was given, mixed in beverages.

The more severely agitated and disturbed patients were also given 5 mg. of intramuscular perphenazine, p.r.n., during the first 10 days. Patients were evaluated by the author at the end of each week. If there was a definite response, treatment was continued for another week at the same dosage, or at 16 mg. to 24 mg. t.i.d. if it was felt that an increase in dosage would result in a better response.

At the end of the fourth week, patients were reevaluated by the author. Treatment was continued with 12 mg. t.i.d. during the fifth week and 8 mg. t.i.d. during the sixth and seventh weeks. At that time, maintenance dosage was established, based upon staff evaluation of the patient's overall response. At the end of 3 months, medication was discontinued where possible or the patient placed on a long term maintenance regimen of perphenazine, 8 mg. t.i.d., and trihexyphenidyl hydrochloride, 5 mg. t.i.d. If improvement was sufficient, patients were allowed to go on extended home visits, or were discharged and transferred to the outpatient clinic on this regimen. Hospital treatment lasted from 6 weeks to 4 months.

Before therapy, the patient's prognosis was recorded as "good," "guarded" or "poor," according to the duration of the disease, the number of previous relapses, and the overall status on admission. This prognosis was based on the results obtained with other phenothiazines in similar cases, and not on those seen in the prepsycho-pharmacologic era.

Results were recorded as "excellent" if there was complete disappearance of psychotic symptoms such as delusions and hallucinations, improvement or return of affect, and appreciation of having been ill; as "good" when there was complete disappearance of delusions and hallucinations, and

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² Trilafon, Schering.

appreciation of having been ill, but when blunting and flattening of affect persisted; as "fair" when there was complete disappearance of delusions and hallucinations, but no realization of having been ill and persistence of marked blunting of affect; and as "poor" when there was no significant change in the patient's status.

Response was excellent in 26 cases, good in 13 and fair in 6; there were 9 failures (see Table 1). Of the 34 cases with a poor

treatment with other phenothiazines, such as chlorpromazine, commented that they were able to tolerate perphenazine much better, because it did not cause sleepiness or drowsiness or that "dragged-out" feeling. Recreational and occupational therapists reported that patients on perphenazine remained alert and responsive, and participated more readily in occupational therapy.

Occasional blurred vision which usually disappeared spontaneously after several

TABLE 1
Results in 54 Patients Correlated with Diagnosis

DIAGNOSIS	NO. OF CASES	POOR	FAIR	GOOD	EXCELLENT
Schizophrenia					
Paranoid	26	5	3	4	14
Catatonic	11	1	2	5	3
Chronic undifferentiated	13	2	1	3	7
Acute undifferentiated	2				2
Hebephrenic	1			1	
Simple	1	1			
	54	9	6	13	26

prognosis, 20 had a good to excellent response, of the 14 with a guarded prognosis 13 had a good to excellent response, and all 6 patients with a good prognosis had a good to excellent response; thus, 8 of the 9 failures occurred in the "poor prognosis" group (see Table 2). Of the 39 patients

days and parkinsonian manifestations, readily controlled with trihexyphenidyl hydrochloride³ or procyclidine hydrochloride,⁴ were the only side effects seen.

The results obtained in this series suggest that perphenazine is an exceptionally effective phenothiazine derivative capable of

TABLE 2
Results in 54 Patients Correlated with Prognosis

PROGNOSIS	NO. OF CASES	POOR	FAIR	GOOD	EXCELLENT
Poor	34	8	6	10	10
Guarded	14	1		1	12
Good	6			2	4
	54	9	6	13	26

with a good to excellent response, 13 have been discharged and 21 have been given extended home visit privileges.

Patients accepted perphenazine readily. Particularly those who had had previous

eliciting a satisfactory response in a higher proportion of cases than some of the earlier related compounds.

³ Artane, Lederle.

⁴ Kemadrin, Burroughs Wellcome.

CARPHENAZINE¹ IN THE TREATMENT OF CHRONIC SCHIZOPHRENICS

JOSEPH A. BARSA, M.D., AND JOHN C. SAUNDERS, M.D.²

Clinical experience has shown that tranquilizing drugs have two chief therapeutic actions: a sedative or calming action and an anti-psychotic (*i.e.*, anti-delusional and anti-hallucinatory) action. Different drugs possess these attributes in varying degrees. In our work with a large number of tranquilizers, we have noticed that the stronger the anti-psychotic effect the weaker is the sedative effect, and vice versa. Moreover, the greater the anti-psychotic action the greater is the incidence of extrapyramidal side-effects, such as, parkinsonism, akathisia and dystonia. At present the class of drugs with the greatest anti-psychotic action is the piperazine group of phenothiazine derivatives. Efforts have continued to find new drugs with potent anti-psychotic action and with less side-effects. It was with this aim that carphenazine (Proketazine), a phenothiazine derivative with a piperazine ring, was developed.

This study tested the effectiveness of carphenazine in the treatment of chronic schizophrenics. Fifty-four female patients between the ages of 25 and 71 were selected. They had been continuously hospitalized for 5 to 33 years, and had received a variety of psychotropic drugs for at least 3 years with slight or no improvement. During the last year 22 patients received levomepromazine (Nozinan), 18 trifluoperazine (Stelazine), 11 chlorpromazine (Thorazine), 2 prochlorperazine (Compazine) and 1 fluphenazine (Permitil, Prolixin). The patients remained untidy, seclusive, withdrawn, preoccupied, flat in affect, delusional and/or hallucinated.

All previous medication was discontinued, and the patients were placed on carphenazine at a starting dose of 12.5 mg. q.i.d. The dosage was gradually increased until either satisfactory therapeutic results were achieved or side-effects appeared. The high-

est dose reached was 125 mg. q.i.d., but the majority of patients received 75 to 100 mg. q.i.d. The drug was continued for 3 to 7 months. At the end of this period one patient was evaluated as markedly improved, *i.e.*, in remission, free of delusions and hallucinations, and ready for release from the hospital; 3 were moderately improved, *i.e.*, although still delusional and/or hallucinated, they were now more alert, more interested in their environment, more sociable, and more active in the hospital program; 13 were slightly improved, 21 unimproved, and 16 were considered worse. The latter were more tense, irritable, hostile, and were reacting more overtly to their delusions and hallucinations.

Side-effects were similar to those previously encountered with other members of the piperazine group of phenothiazine derivatives, except that the carphenazine side-effects were on the whole less severe and more easily controlled. Two patients experienced generalized tremulousness, 20 manifested akathisia, and 17 patients showed the parkinsonian signs of rigidity, tremor and increased salivation. These side-effects responded partially or completely to benztropine methanesulfonate (Cogentin). Blood and urine examinations revealed no abnormalities during the course of this study.

In summary, carphenazine shows chiefly an anti-psychotic (*i.e.*, anti-delusional and anti-hallucinatory) effect and very little of a sedative effect. Moreover, even in its anti-psychotic action it is one of the less potent piperazine-type phenothiazine derivatives, slightly less potent than prochlorperazine. However, as would be expected, the extrapyramidal side-effects of carphenazine are less severe and more easily controlled. Thus, carphenazine is most useful in cases where little sedation is required, where delusions and hallucinations are not firmly entrenched, or where the stronger anti-psychotic drugs produce excessive side-effects.

¹ Carphenazine was supplied by Wyeth Laboratories as Proketazine.

² Rockland State Hospital, Orangeburg, N. Y.

months prior to this study, and only 4 patients had received any medication in the previous 6 months. Lumbar puncture was performed and the fluid examined for protein content by the sulfosalicylic method. Lange gold curves were carried out according to the modification of this procedure described by Lange and Harris (4, 5).

All patients were then started on triiodothyronine (T_3) (Cytomel),³ 25 mcgm. per day increasing every 2 weeks by 25 mcgm., until a level of 100 mcgm. per day was reached, at which level they were maintained for 45 days. Repeat lumbar puncture was performed at this time and the gold curve and protein content were examined.

RESULTS

Table I shows the detailed results of the cerebrospinal fluid protein and gold curves (proteins were obtained on 26 patients and gold curves on 27 patients). The mean protein level, pre- T_3 , was 39 mgm.% (upper limit of normality 40 mgm.%) and that after the course of T_3 , 30 mgm.% ($p < 0.05$). Pre- T_3 , 10 patients had a value above 40 mgm.%; post- T_3 , only 4 patients had a level above 40 mgm.%.

Of the 27 gold curves, 8 were reported as normal; 8 slightly abnormal; and 11 markedly abnormal, pre- T_3 . Following the course of T_3 , 13 were normal; 10 slightly abnormal; and only 4 markedly abnormal.

DISCUSSION

Bruetsch in his large series of schizophrenics found a mean protein level in spinal fluid of 74 mgm.%, which is considerably higher than the level found in this series. On the other hand, the small sample re-

ported here certainly shows a higher percentage of elevated protein than in his series. This discrepancy may be related to age or chronicity of illness in these patients. The difference in results following the course of T_3 is much less, but one wonders whether a similar effect might not have been apparent in Bruetsch's series. A possible relationship of these findings to hypothyroidism in chronic schizophrenics has been reported on elsewhere (6) and will not be discussed here. The writers wish merely to bring these findings to notice. It is, however, their opinion that the findings are related to hypometabolism in chronic institutionalized patients.

SUMMARY

1. In a group of 27 chronic schizophrenics chosen randomly, abnormalities in the cerebrospinal fluid protein and gold curve were noted.
2. A statistically significant normalizing effect on these indices occurred when the patients were placed on tri-iodothyronine.
3. The relationship of the findings to thyroid function has been discussed elsewhere. Decreased metabolism is presumed to be a relating factor.
4. Further work in this area seems indicated.

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A PRELIMINARY STUDY OF AMITRIPTYLINE IN THE TREATMENT OF DEPRESSION

THOMAS FAHY, M.B., B.Ch.¹

Twenty depressed patients, 11 men and 9 women, attending a psychiatric clinic

were selected as suitable for antidepressant drug therapy. All cases were of moderate severity; the average age was 43 years. Fourteen cases had endogenous depression, 6 were neurotic depressives. The average

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duration of illness before treatment was 7 months; four cases had had prior drug treatment for their present illness, but not amitriptyline (Tryptizol²). Patients received 25 mgms. of the drug for 1 week, and 50 mgms. t.d.s. for 5 weeks, after which observations were discontinued. All patients received a small nightly dose of barbiturate. Side-effects were few, none were serious, and they tended to disappear during the second and third week of therapy; commonest were dry mouth (80%) and drowsiness (40%). Dry mouth, dizziness and sweating tended to persist. Sudden hypomania necessitating withdrawal of the drug was seen in 1 case. Three patients reported panic attacks at night during the second and third week. Patients were assessed at weekly intervals, results being shown in the following table:

² Kindly supplied by Messrs. Merck, Sharp and Dohme Ltd.

	ENDOGENOUS		REACTIVE
Recovered (i.e., asymptomatic)	9	6	3
No change or worse	9	6	3
Defaulted (because of anxiety)	2	1	1

Cases who responded to amitriptyline showed improvement which began during the first week and was clear cut in the second. The phenomenon of delayed response was not observed. The drug showed no definite anti-anxiety effects. Cases which failed to respond to amitriptyline after 4 weeks were subsequently given EST with good results in endogenous cases.

Amitriptyline appears to be an effective antidepressant in cases of moderately severe depression with good previous personality and minimal reactive features. The results of this pilot investigation are sufficiently encouraging to warrant full scale controlled clinical trials.

THIRD EVALUATION OF HALOPERIDOL

HERMAN C. B. DENBER, M.D., DANIELLE FLORIO, M.D., AND
PAUL RAJOTTE, M.D.¹

We have previously reported mediocre results with Haloperidol(1), contrary to rather enthusiastic observations in different European centers(2). A second study was carried out at this hospital,² using the product shipped directly from the Belgian pharmaceutical laboratory,³ and then repeated in Liège with a matched sample, using similar criteria for clinical change. The latter results this time were almost identical to those in New York and have been reported in greater detail elsewhere (3). While the dose range was still markedly inferior to the New York levels, the side effects were greater in Liège.

The present report deals with a *third* uncontrolled trial with Haloperidol, combined with an antiparkinson agent (SC-

12333),⁴ which was supposed to synergize the action of the former. The study was carried out in the Research Division of the Manhattan State Hospital, which has 55 acute and chronic female psychotic patients and operates as a therapeutic community with an open door.

Twenty-one patients, ranging in age from 19 to 50 years, received the drugs; the majority were in the 20-39 year group. Seventeen were schizophrenic. The duration of treatment was: to 15 days—7; 16-29 days—5; 30-39 days—2; 50-69 days—7. The final daily dose of Haloperidol was: 5-60 mg.—14 patients; 90-150 mg.—3 patients; 200 mg.—4 patients. SC-12333 was given in doses ranging from 30-300 mg. daily. An extrapyramidal reaction (13 patients), drowsiness (9 patients), and dizzi-

¹ Research Division, Manhattan State Hospital, New York, N. Y.

² In collaboration with the author of the original report (Dr. J. Collard).

³ Janssen Research Laboratories, Beerse, Belgium.

⁴ 1-(4-chlorophenyl) cyclohexyl 2-diethylaminoethyl ether HCL. Both drugs were made available through the courtesy of Dr. Thomas H. Hayes, G. D. Searle & Co., Chicago, Illinois.

ness (5 patients) were the major side reactions.

The results were: much improved—3; improved—7; unchanged—9; worse—2. For the most part, patients with a good prognosis (short hospitalization before treatment) were in the first two categories. The inverse was true for those unchanged and worse; they had longer hospital stays and/or several readmissions.

DISCUSSION

The SC-12333 did not influence either the clinical state or the extrapyramidal reaction. One patient developed a confusional state with severe anxiety, hallucinations, marked tremor and fever (100.4° F.), while receiving 200 mg. daily of Haloperidol, and 90 mg. of SC-12333. The drugs were stopped immediately and the syndrome regressed within 48 hours. This type of reaction requires immediate cessation of medication, for it may be fatal.

The clinical results were not remarkable and could not corroborate other European investigations(4). The present equivocal

findings were similar to our previous studies. The importance of well-defined criteria for clinical change is illustrated by results of the second trial; adoption of our criteria during phase two of the study in Liège gave comparable results.

CONCLUSION

After three clinical trials, we have been unable to confirm the reported "superior neuroleptic" potential of Haloperidol. A genetic mechanism has been postulated to explain the differences, and this is being explored further(5).

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TRANSIENT PSYCHOTIC REACTIONS DURING TRAVEL

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An interesting case of a psychotic disorder which developed during a 48-hour train ride has recently been reported by Singh(1). It may be worth pointing out that similar cases have been observed in the military population, where long periods of travel are not uncommon. At one Air Force hospital over a 3-year period, 22 cases of this "travel syndrome" were reported by Gaarder, Smith and the writer (2), and other similar cases have been seen by Army and Navy psychiatrists(3, 4). The events preceding the psychosis and the symptoms were strikingly uniform in these cases. Typically the individual had been traveling alone for several days on a bus, train or plane, and often there was a history of considerable alcohol intake prior to departure. During the trip he had

eaten irregularly, had a minimal fluid intake, and often developed insomnia. The psychiatric symptoms usually occurred explosively after two or three days of travel. Hallucinations, delusions and ideas of reference were present in each of the 22 reported cases. The individual's fear and his pleas for protection from some delusional threat resulted in his hospitalization, often through the hands of the police. Most of the patients had a clear sensorium, though 5, who were very heavy drinkers, showed disorientation, confusion, tremor and fever consistent with delirium tremens. However, even in these the hallucinations were often auditory rather than visual and the delusional ideas were fairly well organized and coherent. Thirteen other patients were moderate to heavy drinkers, while in 4 there was no history of alcohol intake. Treatment consisted of sedation, correction of fluid deficiencies, and adequate nutri-

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tion; one-fourth of the patients received small doses of chlorpromazine hydrochloride. Most patients were entirely asymptomatic within one week. In the 4 with no history of alcohol intake, recovery was not quite so prompt; while the overt psychotic symptoms had disappeared in all within 3 weeks, 2 had only partial insight into the delusional nature of their experiences.

It seemed likely that both psychologic and physiologic factors had combined in these patients to produce the transient psychotic condition. In those cases resembling delirium tremens, physiologic factors related to alcohol withdrawal seemed most important while at the other extreme were cases in which the psychologic stress of travel seemed capable of precipitating the psychotic disorder. Many of the cases between these extremes resembled alcoholic hallucinosis, although in one patient the threats were homosexual in nature. More common were hallucinations threatening bodily harm, or accusations as to various crimes, communist activities, security violations or heterosexual activities.

As Singh pointed out, there have been many reports that experimental isolation can produce cognitive and perceptual distortions(5-7). These take the form of impaired concentration, vivid visual imagery, auditory hallucinations, and changes in body image. Typically the perceptual illusions are brief, with the subject having insight into their unreality; however, a reaction of several hours duration characterized by hallucinations and ideas of reference without insight has been described (8). While men traveling are not "isolated" in the ordinary sense of the word, a trip of

several days duration among strangers, with unaccustomed surroundings, inactivity, monotony and absence of the usual social relationships may promote fantasy and impair reality contact in an otherwise predisposed individual. These reactions resemble the transient psychotic disorders observed in post-operative cataract patients who have both eyes bandaged(9), in poliomyelitis patients being treated in a tank-type respirator(10), and in other medical and surgical conditions reviewed by Leiderman, *et al.* (11). Common to all these disorders is the rapid resolution of symptoms when normal perceptual contact with the environment is re-established.

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LIFE CYCLES IN PATIENTS WITH MANIC-DEPRESSIVE PSYCHOSIS

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.¹

This report is one phase of an extensive study which we are conducting on manic-depressive psychosis. It encompasses data extending over many years; in fact, the first hospitalization of some of our subjects oc-

curred in the 19th century. It should be noted that the majority of these patients did not receive specific therapy during their multiple hospitalizations; accordingly, the data may be helpful in evaluating the long-range influence of various types of treatment.

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This portion of the investigation includes 187 patients—84 males and 103 females—who completed their life cycles by December 1961. Their ages at first hospitalization and at death are summarized in Table 1.

TABLE 1

AGE	A. AGE AT 1ST HOSP.		B. AGE AT DEATH	
	M	F	M	F
Under 21	2	1	0	0
21-30	10	16	1	0
31-40	17	18	2	5
41-50	11	19	7	9
51-60	19	22	12	16
61-70	16	19	25	26
71-80	7	7	29	38
81-90	0	0	8	9
Unknown	2	1	0	0

In 9 men and 20 women, there was a history of an earlier, well-defined cyclothymic episode prior to the first known hospitalization. This does not affect the conclusion that manic-depressive psychosis is essentially a disorder of mid to late adult life. The data in column B would indicate that longevity is not greatly influenced by the illness. The average age at death was 66 for men and 65 for women. The latter figure may represent a slight decrease in expected longevity in females. We are unable to explain why such a high fraction (65%) of Pollock's² large series of manic-depressive patients died before the age of 50.

Causes of death did not appear to exhibit any significant trend except for one factor, suicide. This accounted for 13 deaths (7%)—8 men and 5 women. Six of these occurred in the hospital or its grounds.

The individual number of hospitalizations experienced by these individuals during their complete life cycles is indicated in Table 2.

The total number of hospitalizations was 561, with an average of 2.5 in men and 3.4 in women. Multiple hospitalizations were not quite as frequent as one might have expected. They were, however, definitely greater than in Pollock's report, in which

TABLE 2

NO. OF HOSPITALIZATIONS	M	F	TOTAL	% OF GROUP
1	24	16	40	21%
2	35	32	67	36
3-4	12	32	44	24
5-6	10	13	23	12
7-9	3	7	10	5
10 or more	0	3	3	2

58% of subjects experienced only one hospitalization. The influence in this area of long, protracted hospitalizations in past years is great. There were more hospitalizations in those whose illness began relatively early. Thus, females whose first hospitalization occurred before 50 experienced an average of 4.1 hospitalizations; males, 2.9. Conversely, early death decreased the number of hospitalizations. Women who died before the age of 50 had an average of 2.7 hospitalizations; men, 1.8.

Some of the reasons for single hospitalizations were as follows. Among the men, 5 committed suicide; 5 were over 70 at the time of first hospitalization; 7 experienced only a single, protracted hospitalization (100 months or longer) from the time of admission until death; and 1 died during EST—a total of 18 (75% of those with single hospitalization). Among females, the corresponding figures were: 2 suicides; 5 over 70 at first hospitalization; and 2 with single, protracted hospitalization—a total of 9 (57%).

The total amount of time which these individuals spent in hospitals is summarized in Table 3.

TABLE 3

TOTAL TIME IN HOSPITALS	M	F	TOTAL	% OF GROUP
1-24 months	32	42	74	40%
25-50 months	9	20	29	16
51-100 months	8	16	24	13
101-200 months	25	13	38	20
201-300 months	4	8	12	6
301-400 months	5	2	7	4
401-500 months	1	2	3	2

Thus, 60 (32%) spent more than 100 months in hospitals—obviously a substantial segment of their adult lives. The average

² Pollock, H. M.: *Am. J. Psychiat.*, 88: 567, 1931.

total time was 100 months for men and 70 months for women. Another expression of these data is as follows. From first hospitalization until death, men spent 38% of their years in hospitals; women, 34%.

The duration of individual, "untreated," episodes in state hospitals (episodes in private hospitals were excluded from this analysis for obvious reasons), irrespective of their ordinal number, is indicated in Table 4.

factors may be influential in this area. The reduction in protracted hospitalizations in recent years may be due not merely to administration of specific therapies, but also to changing administrative and professional concepts, altered attitudes in the family circle and in the community, greater availability of extramural care, *etc.*

It is apparent that difficulties may arise in the comparative analysis and interpretation of statistics of recent date and those

Table 4
Duration of 402 "untreated" episodes in state hospitals

DURATION	DEPRESSED		MANIC		OTHERS	
	M	F	M	F	M	F
under 12 months	35	78	39	83	6	11
12-24 months	5	9	7	11	1	2
25-50 months	8	13	11	8	2	3
51-100 months	5	2	8	5	1	3
100+ months	8	3	14	12	3	6
	61	105	79	119	13	25
Over 1 year — No.	26	27	40	36	7	14
— %	43%	26%	51%	30%	54%	56%

Thus, 150 episodes (37%) were longer than 1 year, and 46 (11%) longer than 100 months. There were 36 patients in the group of 187 (20%) who experienced individual hospitalizations, enduring 10 years or more. It is evident also that protracted hospitalizations were somewhat more common in men than in women, and more frequent in manic and circular episodes than in depressive attacks. A fairly characteristic course of the disease was one in which 2 or 3 earlier, relatively brief hospitalizations were succeeded by a lengthy, terminal one.

It should be noted, of course, that several

of the past. As an example: a depressed patient may have had 4 admissions and discharges during the 1950-60 decade, each illness being successfully treated with EST or antidepressant drugs. What will be the basis of comparison in a broad, statistical survey, of these 4 admissions and the implicit 3 recurrences, with a case of a single, protracted hospitalization in an earlier decade? How is the influence of the previously noted incalculable factors to be measured? It is obvious that multifactorial, long-term, carefully appraised analyses are necessary for the overall evaluation of specific therapies in psychiatry.

AN ALTERNATE METHOD OF EXTERNAL CARDIAC MASSAGE

STEPHEN J. BARRETT, M.D.¹

An elderly woman with mild organic brain deficit was hospitalized for treatment of depression. Following her first ECT with

Pentothal and Anectine, she was apneic. Although artificial ventilation of the lungs appeared to be adequate, the patient became deeply cyanotic over a period of 3 minutes. Her heartbeat at that time was

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not audible. It was observed that the patient had a very thin abdominal wall and "cardiac massage" was attempted by the physician pushing his hand well up under the left lower costal margin and rhythmically pushing and squeezing. After a few such maneuvers the patient's heartbeat was restored, and she eventually recovered with no signs of increased organic impairment. It was thought in retrospect that her cardiac arrest was the cause of her respiratory failure (and not vice versa), but this could not be proven.

In a recent series² of 46 patients who received external cardiac massage, autopsy

findings revealed that 15 (33%) had sustained rib fractures and six (13%) had had marrow emboli to the lungs or heart. The authors suggest that with more careful application of the sternal pressure technique, the number of such complications may be reduced considerably. This case is reported to suggest an alternate simple method of external cardiac resuscitation. Applicable to people with weak abdominal walls, it may prove safer and just as effective as chest pressure method.

² Baringer, J. R., *et al.*: New Engl. J. Med., 265: 62, July 1961.

CASE REPORTS

CARDIAC ARREST AFTER ECT

SUNE NYSTROEM, M.L.¹

In the May 1961 issue of this Journal Arneson and Butler(1) suggest utilizing the method of closed chest cardiac massage in patients with cardiac arrest following ECT. It might be of value to relate that this technique was used in June at the University Hospital in Lund.

The patient was a woman of 62, hysteroid personality, with a protracted global depression of moderate depth, reactively provoked. Physical examination and electrocardiogram were normal. The blood pressure was 200/90, the patient was tense. The body length was 164 cm. (5'6") and the weight only 47 kg. (103.4 lbs.) but there was no emaciation. Except for levomepromazine (Nozinan) 25 mg. in the evenings, no drug treatment was given. The actual complication took place at the first convulsive treatment. Two hundred-fifty mg. Evipan-Natrium was given i.v., followed by 25 mg. succinyl-choline (Midarine). The convulsion was normal. During the subsequent oxygen administration the patient turned pale. No pulse could be felt, no blood pressure measured and no heart sounds could be detected by auscultation. Closed chest cardiac massage was started, and after some minutes blood pressure could be measured, 115/80, and heart sounds were heard. The total time of arrest was rated to have been 3-4 minutes. No signs of persistent cerebral or cardiac damage could be detected in the

examinations performed later.

It should be noted that at our department there has been no previous case of cardiac arrest and no death in connection with ECT; about 25,000 treatments have been given with the same technique since 1953.

From the clinical reports it seems as if heart massage after thoracotomy in connection with ECT often has not been given at all, *e.g.*, in none of the 9 fatal cases reported by Barker and Barker(2). When given it has often turned out unsatisfactorily, as in the cases reported by Arneson and Butler(1), and by Drake and Ebaugh (3). A possible explanation for these facts is the psychiatrists' lack of experience in surgical procedures. Therefore, if the closed methods with cumulating experience prove satisfactory, they might be a relatively greater advancement for psychiatric practice than for many somatic disciplines, where surgical interference is more easily achieved.

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MOTHER'S MILK AND CHLORPROMAZINE

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GEORGE L. ELLMAN, Ph.D.¹

The problem of dispensing drugs to nursing mothers arises in all medical specialties. The physician must be alert to the possibil-

ity of the infant's being affected by medications prescribed for the mother. This was the problem in prescribing chlorpromazine for a nursing psychotic woman. Although chlorpromazine has been widely used, the amount of the drug that may be secreted

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in the milk and its effect on the nursing infant have not been clearly described. This paper is the report of our measurement of chlorpromazine in the blood and milk of a lactating woman.

Joan J., a 20-year-old, married woman, became psychotic immediately after the birth of her first child. The unexpected premarital pregnancy had necessitated a hasty marriage and exploded many of her expansive plans for the future. She was depressed and unhappy during the pregnancy, and immediately after an uncomplicated vaginal delivery became grandiose and manic. Four days later she entered Langley Porter Neuropsychiatric Institute.

On admission she had flight of ideas, loosened associations, inappropriate behavior, and hypomanic activity. Physical examination was normal. She was adamant in her desire to nurse her child; consequently the flow of milk was maintained by pumping the breasts every four hours. She was started on chlorpromazine and maintained on 1200 mg. daily. Within 10 days the patient had improved greatly.

During Joan's hospitalization her child was brought to her at scheduled intervals and she cared for and breast-fed the child without difficulty. The infant's growth, activity, and development during this period were normal. The patient was discharged 18 days after admission.

Procedure. The patient was given a single 1200 mg. dose of chlorpromazine (20 mg./kg.). A venous blood sample was obtained before the single dose, and at 30, 60, 90, and 180 minute intervals thereafter. Milk was expressed by a breast pump before, and also 60, 120, 180 minutes after chlorpromazine administration. The volume was recorded and the sample immediately refrigerated.

Chlorpromazine determinations on the milk and plasma were done by the method of Salzman and Brodie (1956) and final assays made on a recording spectrophotometer (Beckmen DK-1). The spectra of the final acid extracts were determined from 235-280 mμ to make certain that the absorbance determined at 252 mμ was due to chlorpromazine.

DISCUSSION

The concentrations in the plasma, with a peak of 0.75 μg./ml. 90 minutes after the drug administration, are comparable to those observed by others. If distributed uniformly, the drug concentration would be about 16 mg./L of body water (assuming

80% wet weight). The highest observed concentration (0.75 μg./ml.—9.75 mg./L) is 1/47 of this value. This discrepancy presumably results from the rapid binding of the drug by the tissues, primarily brain tissue.

The milk levels were barely above the detectable level. The concentrations paralleled that of the plasma, an observation similar to that found with other drugs. However, the highest concentration in the milk was less than half that in the plasma, 0.29 μg./ml. at 120 minutes, and its appearance lagged behind that in the plasma.

From the data we have calculated that an infant might have received 10 μg. Cpz. in the total amount of milk (124 ml.). In the seven-pound child this would have been a 3 μg./kg. dose. The pediatric dosage for Cpz. is ¼ mg./kg. (250 μg./kg.) every 4 to 6 hours. It appears that the amount of chlorpromazine an infant could have received from nursing would have been insignificant.

Several times we administered 600 mg. of chlorpromazine orally but could not detect the drug in the blood nor the breast milk, nor could we measure chlorpromazine in the morning milk sample after the patient had been maintained on 600 mg. b.i.d. for 7 days. The tissues rapidly take up small amounts of the drug, and apparently a large single dose is needed to give a detectable blood or milk level. Hence it may be suggested that an increased margin of safety could be given the nursing infant by prescribing chlorpromazine in the Spanule form.

There seem to be advantages in allowing some postpartum psychotic patients to participate in the care and feeding of their children. In the case of this young woman, her ability to breast-feed her child was important to her and seemed to speed her recovery.

SUMMARY

The amount of chlorpromazine was measured in the breast milk of a lactating psychotic woman after 1200 mg. Cpz. was given in a single oral dose. The microgram amounts found were probably insignificant physiologically. Our study suggests that babies of mothers receiving large doses of chlorpromazine can be safely breast-fed.

EFFECTS OF CHLORPROTHIXENE¹ IN WELL-ESTABLISHED SCHIZOPHRENIC REACTIONS

IRENE K. GAYUS, M.D., AND JAMES E. BLANCHETTE, M.D.²

Although psychopharmacological agents have had little influence on the underlying pathology of schizophrenics(1), they have been instrumental in lessening anxiety-tension, modifying behavior, and bringing patients into contact with reality long enough to develop some degree of interpersonal relationship with the therapist(2, 3). In fact, the use of such agents has enabled many patients once considered permanently isolated from reality to participate actively in hospital life, carrying out meaningful tasks within the confines of an institution.

In most instances the phenothiazines have been the drugs of choice in these patients, but while generally effective, they are not without limitations. The development of severe toxic reactions frequently overshadows if not negates the benefits obtained with these drugs, and in many patients little if any improvement is noted even in the absence of untoward effects. Thus, there is pressing need for drugs equal or superior to the phenothiazines in efficacy but substantially lower in toxicity and somatic effects. With this in mind, we became interested in a new thioxanthine derivative, chlorprothixene, a drug which has shown great promise in studies conducted here and abroad(4-10), particularly in patients with psychosis and severe psychoneurosis characterized by agitation and depression.

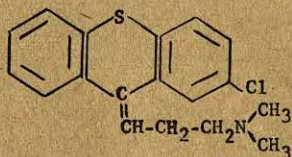
Chlorprothixene is 2-chloro-9-(3-dimethylaminopropylidene) thioxanthine, structurally resembling chlorpromazine; how-

ever, it is more potent than chlorpromazine and unlike any phenothiazine derivative, it appears also to exert a marked effect on psychogenic depressions(7, 10). The low incidence of side effects and adverse reactions reported for chlorprothixene, especially the absence of parkinsonian symptoms and liver or kidney dysfunction, would seem to indicate that it has a considerably lower toxic potential than the phenothiazine derivatives. We therefore set up a study to investigate its influence, if any, on a series of patients with severe advanced schizophrenic reactions.

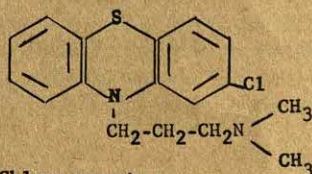
MATERIALS AND METHODS

Thirty female patients, ranging in age from 30 to 50 years (average 45.2 years), at the Patton State Hospital, Calif., were selected for the study. Twenty-nine had been diagnosed as schizophrenic, including 10 paranoid, 8 hebephrenic, 4 catatonic, 2 chronic undifferentiated, 2 acute undifferentiated, and 1 each simple, residual, and schizo-affective; 1 patient was diagnosed as manic-depressive. These conditions were of long standing, namely from 2 to 25 years (average 12.5 years), and in 6 patients for over 20 years. Previous therapy had consisted of Thorazine, Trilafon, Stelazine, Compazine, Sparine, and Librium; 3 patients had also received EST. Response to these medications and therapy had been fair to poor.

On the first day Taractan was admin-



Chlorprothixene



Chlorpromazine

¹ Manufactured as Taractan®, Hoffmann-La Roche Inc., Nutley, N. J.

² Respectively, Staff Psychiatrist, Chairman, Research Committee, Patton State Hospital, Patton, Calif.

istered following breakfast in a single dose of 100 mg., which proved to be too concentrated. On the second day the same total dosage was divided into 4 doses of 25 mg.,

with no complications. In time the maintenance dosage was increased to from 200 to 700 mg. daily in divided doses. Therapy was maintained for 60 days in 1 patient and for over 90 days in the remaining 29. Adjunctive therapy included thyroid in 2 hypothyroid patients, some degree of psychotherapy in all, and, occasionally, such measures as necessary to protect the patients from themselves and each other, *e.g.*, seclusion, restraints, close supervision.

The patients were subjected to regular blood analysis and hepatic and renal function tests; careful note was also made of any cardiac arrhythmias, changes in blood pressure, or skin reactions.

The results were evaluated on the basis of improved social behavior, cooperation, mood elevation, socialization, and diminution of hallucinotic and delusional experiences.

RESULTS AND CASE HISTORIES

Eleven of the patients had good to excellent results. They showed definite social improvement, maintained throughout therapy. There were marked tranquilizing and antidepressant effects which eradicated hostile, anxious, belligerent, and other asocial behavior. In some of these same patients Taractan acted as an energizer. Five of the 11 are performing work assignments with zest and efficacy, and 4 lethargic, quite deteriorated women developed marked stimulation and increased energy output, carrying out various tasks entirely on their own initiative. In these patients the energizing

effects in no way interfered with relaxation or cooperation. To a lesser extent hallucinations were diminished and delusions suppressed or eliminated.

In the 6 patients with fair response, there was improvement in some ways: they became more pleasant, calmer and less noisy; cyclothymic changes occurred less frequently and previously helpless women began to dress without assistance and take more personal interest in themselves. There was, however, no change in hallucinosis or confused thought patterns, and it was still impossible to maintain contact with them for an extended period of time.

Thirteen patients remained the same or became worse while on Taractan. Occasionally one of these patients would become less agitated or eat better, but there was no real change in their status. Restraints and isolation had to be continued in most, as well as close supervision in all. The results are summarized in Table 1.

There were few side effects. Due to the large initial dose almost all developed vertigo, 2 had convulsions, and 1 a grand mal seizure. However, when the daily dosage was divided into 3 to 4 smaller doses there was no repetition of symptoms even on dosages as high as 700 mg. per diem. Later in therapy 1 patient fainted, and another hypothyroid patient developed edema of the eyelids and cheeks. This subsided when thyroid was administered and the Taractan dosage reduced. Taractan had to be discontinued in one patient, a schizophrenic reaction paranoid type, who became maniacal and had to be isolated and

TABLE 1
Diagnostic Categories and Results of Taractan Therapy

DIAGNOSIS	NO. OF PTS.	RESULTS			
		EXCELLENT	GOOD	FAIR	POOR
Schizophrenia, paranoid reaction	10	1	2	2	5
Schizophrenia, hebephrenic reaction	8		1	3	4
Schizophrenia, catatonic reaction	4		2	1	1
Schizophrenia, acute undifferentiated reaction	2		2		
Schizophrenia, chronic undifferentiated reaction	2		1		1
Schizophrenia, schizo-affective reaction	1				1
Schizophrenia, residual reaction	1		1		
Schizophrenia, simple reaction	1		1		
Manic-depression	1	1			
TOTALS	30	2	10	6	12

restrained. After cessation of therapy she recovered but again became maniacal when the drug was resumed.

Laboratory studies did not reveal evidence of hepatic, renal, or hematologic changes, nor were there signs of parkinsonian symptoms, cardiac arrhythmias, altered blood pressures, or suppressed sensorium. Also there were no changes in EEG's of the 3 patients who had convulsions.

The patients studied were among the most disintegrated, hopeless psychotics in the unit. Nevertheless over 56% of them achieved some symptomatic improvement, 36% obtaining good to excellent response. The degree and type of improvement are best illustrated by the following, brief histories.

Case 5. K.G., a 42-year-old woman with depressive reaction of 9-years' duration, was quiet and noncommunicative, spending her time rocking back and forth. After the initial 100 mg. dose of Taractan she developed convulsions, but these disappeared when the divided doses were given. During the next 20 days she was maintained on 200 mg. per diem and was observed to brighten up and make friendly gestures towards the other patients and the hospital personnel. The dosage was increased to 300 mg. during which time she showed increasing improvement. She still rocks on occasion, but maintains her pleasant, friendly attitude and carries out various assigned tasks satisfactorily.

Case 7. D.B., a 45-year-old woman with schizophrenic reaction, paranoid type, of 3-years' duration, was a belligerent, antagonistic patient who slept much of the time and refused to carry out any work tasks. Thorazine medication had proved useless. She developed convulsions after the first Taractan dosage, but did well on a maintenance dosage of 100 mg. per diem for 20 days, and later on 450 mg. for 42 days. She is now a friendly cooperative patient, works well and has become one of the best kitchen workers in her unit. She is presently being kept on 150 mg. t.i.d.

Case 9. J.B., a 50-year-old widow with schizophrenic reaction, paranoid type, of 9-years' duration, was completely out of contact with reality, believed that she and her husband were doctors, and went about pulling bats out of the atmosphere. She had responded poorly to Stelazine therapy. The patient was maintained on 100 mg. Taractan daily for 10

days with little response, after which the dosage was increased to 500 mg. per diem. She responded very well to this increase and now talks much more normally with only occasional word salads. She still has delusions concerning her husband but for the first time is able to carry out assigned tasks. She is being maintained on 200 mg. per diem.

Case 13. M.B., a 48-year-old woman with schizophrenic reaction, hebephrenic type, of 22-years' duration, was a childlike, withdrawn person who had to be spoon-fed and closely watched for incontinence. She had obtained only slight improvement after Stelazine therapy and EST. However, her response to 100 mg. Taractan per diem was good, and it improved steadily as the dosage was increased gradually to 600 mg. For the first time she wrote letters home and took an interest in various unit activities. Through her own efforts she improved her appearance using cosmetics and visiting the beauty parlor. When the present study terminated and Taractan was discontinued, she disintegrated rapidly. She has since been reinstated on Taractan.

Case 21. M.W., a 45-year-old woman with schizophrenic reaction, catatonic type, of 24-years' duration, was belligerent, sat by her bed all day, yelling, pounding her head, and refusing to do anything but eat. There had been no response to previously administered liquid Thorazine. While on 100 mg. Taractan she became quieter and less hostile, but developed syncope on the 7th day of therapy. However, this cleared up almost immediately, and further improvement followed after a dosage increase to 600 mg. per diem. At present she is only occasionally belligerent and has developed great interest in the cooking group.

COMMENT

The overall response to Taractan therapy was more than satisfactory. It is not surprising that many patients failed to improve since those investigated represented the most far-removed from reality and least likely to obtain remission. Still, it is noteworthy that those who did well had previously responded poorly to the phenothiazines, the only other agents available that might have been of benefit. In addition, it was felt that the study had progressed only to the stage where contact was made with the patients; indications are that better socialization and cooperation in psycho-

therapy may be expected in the future.

For the present, Taractan appears to be a safe but potent drug. Its influence, if any, on underlying psychic pathology has not been demonstrated, but it does effect a favorable outcome in the symptomatology of certain psychoses characterized by agitation. Further study on the possible applications of Taractan are strongly recommended.

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COMMENTS

SOVIET PSYCHOLOGY

This is the title of a recent book by five prominent Russian educators (translated by Ralph B. Winn and published by Philosophical Library) that western psychologists will profit by reading; and not psychologists only but all who have responsibility in teaching and training children and youth.

The text provided by these five teachers runs to only 99 pages. They have therefore reduced the subject of Soviet psychology to its simplest terms, often by the use of dogmatic assertions that brook no questions: "Only dialectical materialism has a correct conception of the nature of experience . . . It alone emphasized the historical nature of consciousness and revealed the class character of consciousness in a class society . . . It decisively rejects all theories which argue that man's personality and experience are determined by biological, natural drives."

The question of the respective parts played by heredity and environment in shaping personality is resolved quite simply and finally in favor of "the correct view of the decisive role of the environment." If any doubt remains we are informed that "the Central Committee of the Communist Party of the Soviet Union passed the resolution of July 4, 1936. This resolution . . . put an end to the 'two-factor theory' which proclaimed the equal role of heredity and environment." John Dewey was of course all wrong in his "erroneous view of the strength of biological factors." It is freely admitted that Soviet psychology, based on Marxist theory, is not yet fully developed and that there is need of further studies "of the basic changes in human experience produced by the abolition of private property and by the planned transformation of this experience under conditions of gradual transition from socialism to communism."

The simple thesis throughout this primer is the moulding of the child's mind from its

earliest years, consistently and continuously, to the frame of the class society of Soviet Russia. "This change in the activities and relationships of the child, the juvenile and the adult, is a process whose course is not evolutionary. It rather takes the form of sudden transformations." Throughout the educational process "bourgeois psychology" is rejected and replaced by "Marxist theory."

"The play of our Soviet children becomes, therefore, a school in which they practically acquire the norms of Socialist behavior."

If we disregard for a moment the narrowly unilateral purpose and the end product of Soviet education, we find details worked out in this system of training which should be considered basic anywhere and to which education planners in the western world might profitably pay more attention. These details have to do with the integration of the child in the "family collective," developing in him from the beginning an awareness that he is not only an important but also a responsible member of the family, with suitable daily duties just as father and mother have their daily work. The child not only receives; he also earns. This discipline of home life is intended to prepare for school life and to obviate behavior disturbances due to incompatibilities between school discipline and home discipline. Instilling the sense of duty is paramount throughout in shaping the child's personality—"the personality of a Soviet patriot and of a future fighter for Communism."

Taking full account of worthwhile features of Soviet psychology, of which the contributors to this book seem to feel that they have a monopoly, it may be suggested that their dogmatic rejection of "fatalistic Western psychology" is hardly in keeping with the spirit of science that recognizes no national boundaries.

C. B. F.

CORRESPONDENCE

CARDIAC ARREST

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In the February 1962 issue of the *American Journal of Psychiatry* on p. 753 there is an exchange of letters discussing the treatment of cardiac arrest occurring during or under electroshock therapy. These letters were drawn to my attention because of the inherent danger of some of the statements made by the writers. Experimental studies by Kouwenhoven and others have shown that external closed chest defibrillation can be accomplished only by the use of a high voltage current (Kouwenhoven, W. B., *et al.* : *Surgery*, 42 : 550, Sept. 1957). It has been found that that which is most effective for the adult is 440 volts for 0.25 seconds. Low voltage currents, such as are usually delivered by EST machines, have, when placed across the closed thorax of the experimental animal, caused ventricular fibrillation. Such low voltage shocks, however, when sent across the *heart only* with the *chest open* can defibrillate the heart in ventricular fibrillation. The actual current going through the heart required to defibrillate it is 1.5 to 2 amperes. This can never be delivered through the closed chest unless the voltage is as high as mentioned above.

I agree wholeheartedly with the writers that a well oxygenated myocardium is necessary before defibrillation is possible or before the heart beat can be re-established even if the heart is only asystole. It is of greatest importance when circulatory arrest is considered that both ventilation by

mouth-to-mouth or other techniques and circulation by external cardiac massage be immediately applied. Other assistance from cardiologists and surgeons can be obtained as long as both ventilation and circulation are artificially provided continuously.

The injection of epinephrine into the cardiac musculature was mentioned. If 3/10 or 5/10 mgm. epinephrine is to be injected (and this is very valuable) it should be into *the blood* of the heart and then circulated throughout the coronaries and the rest of the body so as to give a stimulating action to the entire myocardium. Localized injection into the heart musculature will cause an irritative focus and may result in ventricular fibrillation if it is not already present. Such drugs injections should follow and not precede support of the oxygenation system by artificial ventilation and artificial circulation. In a recent article (Jude, J. R., Kouwenhoven, W. B., and Knickerbocker, G. G. : *J.A.M.A.*, 178 : 1063, Dec. 1961) the procedure and stepwise treatment for sudden circulatory arrest is described.

While cardiac arrest is rare under EST but does happen, with proper treatment resuscitation should occur without difficulty.

I hope you are able to publish this letter in an early issue of your *Journal* so as to forestall the possible harmful use of the electroshock therapy machine as an external cardiac defibrillator.

James R. Jude, M.D.,
Baltimore, Md.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : It has been almost two years since I used the electroshock machine in an attempt to restimulate a heart that had entirely ceased beating. Subsequently much

research has been done by others.

Since that time the technique of external cardiac massage has been developed. The evidence that Dr. Jude offers seems to indicate that the use of the electroshock machine in an attempt to restimulate the

heart following cardiac arrest is contraindicated. It looks as if my single experience was a lucky one.

I am extremely grateful to Dr. Jude and others for their comments. Such exchanges of information between various branches of medicine have contributed substantially to

our knowledge. I sincerely hope that my observation which I reported led to no harm. At least it provided stimulus, even if in a negative fashion.

Corbett H. Thigpen, M.D.,
Augusta, Ga.

SUICIDE IN ADOLESCENTS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: In the article, "Suicide and Suicidal Attempts in Children and Adolescents" (J. M. Toolan, Feb. '62), it is stated (p. 719), "There have been *only two* recent studies on the subject of suicidal attempts by adolescents." It goes on to cite Mason (1954); and, Balser and Masterson (1959).

May I correct the statement by calling your attention to the fact that the paper, "Events and Conscious Ideation Leading to Suicidal Behavior in Adolescence" (H. I. Schneer, P. Kay and Dr. Brozovsky) published in the *Psychiatric Quarterly*, July 1961, was read Nov. 28, 1959 at the New York State District Branches meeting of the APA and was excellently reported in the N.Y.S.D.B. Newsletter (April 1960). Dr. Toolan's paper was read May 1961. In the

book, *Adolescents: Psychoanalytic Approach to Problems and Therapy*, a chapter (9), The Suicidal Adolescent, by H. I. Schneer and P. Kay, appears and was published in April 1961. It is of interest to note that Dr. Toolan at Bellevue Hospital reports 84 suicidal adolescents (12-17 years of age) during 1960. It is difficult to derive a rate for adolescents since Dr. Toolan combines children and adolescents in the quantity "approximately 900 admissions." He gets a rate of 11% of all admissions under 16. From our material during 1956 and 1957 we (Schneer, Kay, Brozovsky) reported 84 suicidal adolescents (12 to and including the 16th year) of 653 adolescent admissions (12-16) yielding a rate of about 12%.

Henry I. Schneer, M.D.,
State University of New York,
College of Medicine.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Dr. Henry Schneer states that I did not refer to his paper "Events and Conscious Ideation Leading to Suicidal Behavior in Adolescence," published in the *Psychiatric Quarterly*, July 1961. This is certainly correct. Dr. Schneer knew that my paper was read and presented at the annual meeting of the American Psychiatric Association,

May 1961, two months prior to publication of his article. He also called my attention to his book *Adolescents*, published April 1961. Unfortunately, Dr. Schneer's book had not been brought to my attention prior to the writing of my paper.

James M. Toolan, M.D.,
New York University,
College of Medicine.

NEWS AND NOTES

MISS SWITZER HONORED.—Miss Mary E. Switzer, Director of the Office of Vocational Rehabilitation of the U. S. Dept. of Health, Education, and Welfare, received the honorary degree of Doctor of Humanities from Duke University at its commencement, June 4.

This was her seventh honorary degree. She received previous years Doctor of Humanities degrees from Tufts University (Massachusetts), Gallaudet College (Washington), Boston University, and Western College for Women (Ohio), the Doctor of Laws degree from Adelphi College (New York) and the Doctorate of Medical Science from the Women's Medical College of Pennsylvania.

Miss Switzer is the first woman ever to receive the coveted Albert B. Lasker Award for international work for the disabled; she has also received other outstanding awards for work with the handicapped and has been given the President's Certificate of Merit, the highest award given to a regular civil service employee. As a representative of the United States at the first International Health Conference, Miss Switzer helped to develop the constitution of the World Health Organization.

OF HOGS AND HUMANS.—In an open letter from the President of Smith Kline & French Laboratories, the statement is made, "Not long ago, Secretary of Health, Education, and Welfare Ribicoff remarked that men, women and children should receive the same protection against the marketing of worthless drugs as hogs, sheep and cattle.

"His statement made headlines and was repeated in a Presidential message to Congress. It undoubtedly created a strong public impression that animals are protected by law against bad medicine and that humans are not. But the facts are otherwise."

The open letter continues, "Medicines for animals and human beings alike are regulated by two sets of laws, one covering biological products such as serums and vaccines, the other covering nonbiological

medication usually dispensed in the form of tablets or capsules.

"In this Act (the Virus, Serum, and Toxin Act of 1944) . . . the Public Health Service is given authority to insure 'the continued safety, purity and potency of biological medicines.'

"With respect to other medicines, both animals and humans are protected by *exactly the same law*—the Food, Drug, and Cosmetic Act of 1938.

"Obviously, then, hogs do not receive greater protection than humans. This is the fact of the matter, and when the fact pertains to such a vital question as the public health, it is important to keep the record straight."

RESEARCH TRAINING IN PSYCHIATRY.—A 2-year program leading to the degree of Doctor of Medical Science is offered by the Graduate Educational Program of the State University of New York, Downstate Medical Center. The program is open to M.D.'s who have completed 3 years of residency training in psychiatry. Candidates who have completed 2 years of residency will also be accepted by special arrangement. The program provides a series of courses concerned with research methods and current major concepts in psychiatry.

Each candidate accepted will be granted a fellowship of \$6,000 for the first post-residency year and \$7,000 for the second year. These fellowships may be supplemented by stipends for special research or teaching. Applications for the academic year beginning September 1963 should be submitted before February 1, 1963. For additional information write to: Office of Admissions, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn 3, N. Y.

CORRECTION.—It is regretted that the appearance of two figures, which replaced two others originally submitted with the manuscript, was accidentally reversed in the printed paper. In the May '61 issue Figure 13 on page 1024 should have been placed

on page 1023 under the heading "EEG Recordings (Cortical and Subcortical) from Patient #A-26 during Period of Remission," and Figure 12 on page 1023 should have been printed on page 1024 under the heading "EEG Recordings (Cortical and Subcortical) from Patient #A-26 during Period of Psychosis."

CORRECTION.—It is regretted that in setting up the list of new Diplomates of the American Board of Psychiatry and Neurology, which appeared in the June issue of the *Journal*, the printer omitted the name of David Abrahams, M.D., Los Angeles, which should have appeared initially in the list under Psychiatry.

RESEARCH ADMINISTRATION

JOHN R. WHITTIER, M.D.¹

The subject of research administration is not taught in medical school or residency, or an experience gained in private practice or in teaching. Over a period of years, the writer has accumulated a list of readings on the subject, with special reference to psychiatry. A selection from the list is offered herewith.

REPRINTS

American Institute For Research : Critical requirements for research personnel ; a study of observed behaviors in research laboratories. Report, Mar. 1949.

Gerard, R. W. : The organization of science. *Ann. Rev. Physiol.*, 14 : 1, 1952.

Kubie, L. S. : The problem of maturity in psychiatric research. *J. Med. Educ.*, 28 : 11, Oct. 1953.

Committee on Psychopathology of the Group for the Advancement of Psychiatry : Collaborative research in psychopathology. Report 25, Jan. 1954.

Ott, Emil : Stimulating creativity in research. *Chem. Eng. News*, 33 : 2318, 1955.

Kline, Nathan S. : You can't get there from here. *Ind. J. Psychiat.*, 1 : 118, 1959.

Pierce, J. R. : Freedom in research. *Science*, 130 : 540, 1959.

De Takats, Ceza : Parkinson's Law in medicine. *New Engl. J. Med.*, 262 : 126, 1960.

BOOKS

Gregg, Alan : The Furtherance of Medical Research. New Haven : Yale University Press, 1941.

Cannon, Walter Bradford : The Way of an Investigator. New York : W. W. Norton, 1945.

Conant, James B. : On Understanding Science. New Haven : Yale University Press, 1947.

Bush, George P., and Hattery, Lowell H. (Eds.) : Teamwork in Research. Washington, D. C. : American University Press, 1953.

Council of State Governments : Training and Research in State Mental Health Programs. Chicago, 1953. See especially, summary p. XVII, and Chap. 6-9.

The American Foundation : Medical Research : A Midcentury Survey. Boston : Little, Brown & Co., 1955. See especially Vol. 1, American Medical Research : In Principal and Practice.

Whyte, W. J., Jr. : The Organization Man. New York, Doubleday, 1956. Part Five.

American Institute of Management : Research and Development in the Corporation. 1957.

¹ Director of Psychiatric Research, Creedmoor Institute for Psychobiologic Studies, Queens Village, N. Y.

BOOK REVIEWS

PREHISTORIC MAN. By *Josef August*, and *Zdenek Burian*. (New York: Tudor Publishing Co., 1961, pp. 52, plates 52. \$9.95.)

The senior author of this book is a professor of paleontology and the junior author the artist who prepared the beautiful colored plates representing the forms and life of prehistoric man and his precursors. The book is a product of Czechoslovakia, and it speaks volumes for that country's technical achievements in being able to produce a book of such attractive appearance. Unhappily the book is marred by some serious misrepresentations of some of the types it represents. *E.g.*, Neanderthal Man is represented in a form which I have been arguing against for a generation. Recently Cave and Straus, re-examining the skeleton of Neanderthal Man, have shown that the traditional conception of him as a knock-kneed, bow-legged, bull-necked, stooped-walking, club-wielding monster is wholly contrary to the evidence. Nevertheless, Neanderthal Man is so reconstructed in this volume. We are also misinformed to the effect that the Neanderthals did not adorn themselves with any ornaments and left no cultural relics to posterity. These statements, also, are contrary to the known facts; nor was Neanderthal Man the first human being to appear on earth. There are numerous other misstatements, and it is all a great pity, because Mr. Burian is an artist of great ability, and his illustrations are for the most part beautiful, but alas, it is all to no purpose, since the bestiality of early man is overemphasized, and one comes away from this book with the false impression that early man was a nasty sort of creature. The conclusions usually drawn depend upon the temperament of the drawer, one is that innate nastiness is the common human heritage, the other is that we have evolved from nastiness to comparative un-nastiness. Both conclusions, I believe, are wrong, and it is books such as this that help to perpetuate such wrong ideas.

A great deal of labor and talent went into the making of this book. The artist has done much better than the author of the text. It is a pity that both of them did not avail themselves of the existing knowledge which would have prevented them from committing the scientific solecisms they have.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

THE SOCIOMETRY READER. Edited by *J. L. Moreno, M.D., et al.* (Glencoe, Ill.: Free Press, 1960, pp. 772. \$9.50.)

What happens to people is somehow related to what happens between people. Psychiatry is a social science. Moreno has, perhaps more than any one else, developed the study—particularly the measurement—of contact lines between people. This book consists of 64 papers (14 of them by Moreno) on various aspects of sociometry. To the clinician, many of the articles will seem turgid with abstract concepts, hard-to-follow sociograms, and a rather esoteric jargon. (Example: "Cultural conserves are products of creativity, antipodal to spontaneous matrices which emerge in the intensive heat of status nascendi.")

Sections cover definitions, historical background and method. There is material on sociometric choice, the sociomatrix, derivations of status index, distribution of isolates, measures of reciprocation, matrix algebra, interpersonal desirability values, and so on.

As with all anthologies, the style varies. Some of the chapters are written with transparent clarity; others are utterly obscure. Little of the material is of everyday clinical value, but a mastery of the sociometric concepts will give any psychiatrist a better philosophic foundation. On the whole, this book makes hard reading. To grasp it, you have to sweat over some of the pages. But it is loaded with ideas. It is a volume to be tasted. It certainly cannot be gulped.

HENRY A. DAVIDSON, M.D.,
Cedar Grove, N. J.

FIELD STUDIES IN THE MENTAL DISORDERS. Edited by *Joseph Zubin, Ph.D.* (New York: Grune & Stratton, 1961, pp. 495. \$6.75.)

COMPARATIVE EPIDEMIOLOGY OF MENTAL DISORDERS. Edited by *Paul H. Hoch, M.D.*, and *Joseph Zubin, Ph.D.* (New York: Grune & Stratton, 1961, pp. 290. \$9.75.)

These two books go together. The first is the verbatim report of a Work Conference, held under the auspices of the American Psychopathological Association; the second is similarly the report of the 49th annual meeting of that Association, held immediately after the Work Conference, February 1959.

Those participating included distinguished

representatives of the psychiatric profession in Europe, as well as distinguished epidemiologists, vital statisticians, and biometricians, from both the U. S. A. and Europe. The proceedings consisted of formal presentations, extensive discussions, often with additional material, and summaries of the various sessions. The reader thus finds here descriptions of methods used and results obtained in various studies in various parts of the world at various times, as well as various views from various schools. And he finds disagreement on practically everything—diagnosis, prognosis, nomenclature, methods and even results of surveys and studies. Some participants called for new methods, new approaches, but others cautioned against complete disregard of the past and made a plea for continued, intensive, competent study. In spite, or because of, the disagreements, there is very much here of high value for general epidemiologists and statisticians, as well as for psychiatrists and psychologists.

The index in each volume is complete, and the general set-up and printing of high order.

N. E. MCKINNON, M.D.,
University of Toronto.

50 JAHRE NEUROPATHOLOGIE IN DEUTSCHLAND, 1885-1935. Edited by *Prof. Dr. W. Scholz*. (Stuttgart: Georg Thieme Verlag, 1961, pp. iv + 123, illus. DM 12.80.)

This valuable compendium was a gift of the first Congress of Neuropathology to be held in Germany to the accredited members of that Congress recently convened in Munich. This was made possible by a grant from the World Federation of Neurology. A finer text with photographs of individuals and groups of pioneers in the Fach to serve as a background to the Congress can hardly be imagined.

Here are the life stories of the small group of great German innovators who founded and built up the anatomy, pathology and histopathology of the nervous system, with special attention to the central organs and the cerebral cortex, and particularly as a basis, so far as possible, for clinical understanding. It was a new division of science made possible by new techniques and staining methods developed by men who created that science—Weigert, Edinger, Nissl, Alzheimer, Spielmeier, Brodmann and the Berlin group.

In the midst stands the name of Emil Kraepelin, of whom Professor Kurt Kolle, referring particularly to the Heidelberg and Munich members of the group, writes: "These

brilliant men would never have been able to accomplish what they did without this forceful man who drew them to his Heidelberg Clinic, his Munich Clinic, and later to his Research Institute—not without Kraepelin . . . Besides being a clinician of great distinction Kraepelin must also be reckoned as a co-founder of neuropathology."

Nissl stands out especially among these men. It was he who by means of his refined methylene blue stain discovered in the bodies of the nerve cells the particles which he described as the "sogenannte granula," but which others promptly christened the Nissl bodies—and so they are to this day.

Of the group around Kraepelin he was the first to join him at Heidelberg, soon to be followed by Alzheimer. Nissl founded the *Histologische und Histopathologische Arbeiten ueber die Grosshirnrinde*, the first volume of which came out in 1904. This 500-page book contained two separate papers by Alzheimer and Nissl on the histopathology and differential diagnosis of general paresis. These greatly detailed studies were illustrated by beautiful oil-immersion pen drawings in color by the authors together with photomicrographs of the cortex and other pictures in the text. The *magnum opus* of the two pioneers was the last word in the description and illustration of the gross and finer pathology of paresis.

One reads here also the tragic story of Franz Nissl's break with his father, a confirmed Catholic, who intended his eldest son for the priesthood, introduced him to the philosophy of Thomas Aquinas, and forbade him to attend a North German university, fearing Protestant influences. Nissl however was not diverted from his chosen course. In his room in the Heidelberg Clinic he replaced the crucifix over the bed with a self-designed motto which read "Ecrazez. Rottet sie aus."

It was Weigert who stood at the head of this pioneer group as being the oldest. In his laboratory in Frankfurt a/M., Edinger, Nissl, and Alzheimer did their own early work and gladly acknowledged their indebtedness to the master. There they learned of the long laborious steps in the development of the Weigert stain for the myeline sheath, and glia fibres, the staining method that was always "beinahe fertig."

During a life of many and heavy vicissitudes Weigert maintained his cheerfulness and his devoted work up to the time of his sudden death at 58.

The men who are memorialized in this book—for the production of which we have to thank Professor Scholz of the Forschungs-

anstalt in Munich at Kraepelinstrasse 2—were the builders of neuropathology in Germany during the closing years of the nineteenth century and the early years of the twentieth. It was the reviewer's great privilege to be in Germany in the midst of that germinal season and to have worked under the guidance of Kraepelin, Nissl and Alzheimer during the Heidelberg period. Appreciation of the value of that experience has grown with the passing years. There were giants in those days, and one cannot but think of how it might have seemed to have stood on the face of the planet in its earlier days when the mountains were thrusting up.

C. B. F.

THE ABNORMAL AND THE MENTALLY ILL BEFORE PENAL JUSTICE. By A. Porot, and Ch. Bardenat. (Paris: Librairie Maloine, 1960, pp. 259.)

As is evident from its title, this book is a work in legal medicine, and both aspects, law and medicine, are covered in great detail. Like most European texts, the psychiatric concepts abound with references to numerous authors, most of whom are French. They discuss the extent of penal responsibility. Irresponsibility is defined in article 64 of the French Penal Code as a state of dementia at the time of the act or as a restraint by a force that the person involved could not resist. The value of the testimony of experts is discussed. Among the states of constitutional deficiencies they list: idiocy, imbecility and mental retardation. The social ethnic retardation (paleophrenia)*causes a deficiency in the power of criticism and judgment and in the sense of relationship this brings stupid conclusions, credulity and suggestibility. They also list a group of sensory inferiorities (mutes and deaf-mutes).

The French have a term, "desequilibres," which may be rendered in English by "unstable." It has been used by Regis and Borel and denotes irregular and capricious behavior, a lack of efficiency, numerous faulty acts, and a poor social adaptation that leads to delinquency. This instability is brought about by the special constitutional structure of the personality, causing cyclothymic, paranoid, epileptoid and psychasthenic "dispositions." One can already note that the French psychiatric terminology differs substantially from that used in the United States.

There is also an instability in the moral field: amorality and perversions. Character instabilities are aggressiveness, compulsion-obsessiveness (including specific sexual behavior), kleptomania, pyromania and destructive-

ness. Instability in the ideational field expresses itself through mythomania and fabulation. Instability in psychomotor activity may be permanent or temporary: fugues and cravings to travel (dromomania). Among the psychoneurotic reactions that mitigate guilt are various states of anxiety and passion, hysterical suggestibility, hypnotic states and obsessions. Cenesthesias are subdivided into neurasthenias and cenestopathies, terms that are seldom used among us. The sexual perversities discussed are eroticism, frigidity, impotence, homosexuality, incest, rape, bestiality, masochism and sadism. In this group the problem is less in the definition of guilt than in the definition of the act.

Juvenile deficiencies combine various forms of dementia praecox (Morel), which was once equated with hebephrenia (Hecker). Schizophrenia was coined by Bleuler to denote the disassociation of the different psychic functions. Senile dementias may begin precociously at fifty as the presenile dementias. But cerebral atherosclerosis may start as early as forty. This is very important in establishing penal responsibility. Organic mental deficiency states and cranio-cerebral traumatism are easier to establish. Acute manias and other states of excitement and hallucinations are treated together with epilepsy, alcoholism and intoxication. Of particular interest to psychiatrists is the ample treatment of psychopathological reactions to the trauma of imprisonment.

HIRSCH L. GORDON, M.D.,
New York, N. Y.

PSYCHIATRIE DER GEGENWART—FORSCHUNG UND PRAXIS. Volume III. Social and Applied Psychiatry. (Edited by H. W. Gruhle, R. Jung, W. Mayer-Gross, and M. Müller. (Berlin: Springer-Verlag, 1961, viii, pp. 880.)

The second volume of this work—*Clinical Psychiatry*—has been reviewed here. The first volume is likely to be published soon. In this volume the authors deal with Social and Applied Psychiatry. Under the heading Social and Practical Psychiatry, new movements, suicide, organization of hospitals and nosological problems are discussed. There are contributions in English by Paul H. Hoch (New York), by Kenneth Soddy (London, England), and by Sir Aubrey Lewis (London, England), on social psychiatry, mental hygiene and psychiatric educational training, respectively.

The second chapter, Forensic Psychiatry, has sections on forensic and administrative psychiatry, on sexual perversions by J. Wyrsech (Bern), and a review in English on forensic psychiatry in various countries by Gösta Ry-

lander (Stockholm).

The third chapter, *Borderland of Psychiatry*, brings an English paper on psychiatry and ethnology by Margaret Mead (New York), a paper on religion and psychiatry by a Swiss author (Hans Heimann) and a very good treatise on art and psychiatry in French by Robert Volmat (Besançon, France).

In the fourth and last chapter, the psychiatry of wartime is presented. There are many aspects of great interest in every sphere and on every level of the fighting soldier, the war prisoner, the fugitive, the civilian, and the concentration camp. The frustrating and often desperate attempts to take new roots after losing one's original ones, and the problem of changing roots again (*Umwurzelung*) are discussed. Acute damages due to hunger and their neurological and psychiatric sequelae, as well as neuropsychiatric disorders in prisoners-of-war are presented, the latter in English by E. K. Cruickshank (Kingston, Jamaica).

This is an impressive volume with many facets, which really renders a picture of modern psychiatry in all the fields dealt with so far. The numerous bibliographic references are particularly helpful, too. The two remaining editors—R. Jung and Max Müller—are the more to be congratulated as, since the appearance of the second volume, two of the original editors—H. W. Gruhle and W. Mayer-Gross, both excellent men whose deaths were serious losses—died.

EUGEN KAHN, M.D.,
Houston, Texas.

THE PRACTICE OF MENTAL NURSING. 3rd Ed. By *May Houlston*. (Edinburgh: E. S. Livingstone; Baltimore: Williams & Wilkins, 1961, pp. 164. \$3.00.)

The author has indicated in the preface to the third edition that this book has been written primarily for the junior student nurse in the mental hospital. Emphasis is placed on nursing practice in England, Wales and Scotland.

Miss Houlston has covered a wide range of subject matter, including an historical survey of mental illness, essential qualities and general duties of the mental nurse, normal psychology, general symptomatology of mental disorders, mental and physical factors in mental disorders, cleanliness of patient, night nursing, *etc.* The attempt to include such a wide range of content in a small book has necessitated compressing some valuable content in a few short paragraphs. Areas such as the specific procedures for "blanket bathing" and "care and administration of dangerous drugs and

poisons" are presented in considerable detail.

The author has stated that the most important part of the book deals with practical nursing. Undoubtedly, this is the reason considerable emphasis has been placed on nursing procedures. The content in psychiatry and psychiatric nursing is presented in an introductory fashion. A comprehensive summary is included at the end of each chapter. Worthwhile suggestions are offered for nursing activities in recreational and occupational therapy. A short bibliography is included.

This book contains a good deal of elementary general nursing content and would be most useful to the beginning nursing student practitioner.

MARY F. LISTON, R.N.,
New York, N. Y.

MULTIPLE SCLEROSIS (PROGNOSIS AND TREATMENT). By *Leo Alexander, Austin W. Berkeley, and Alene M. Alexander*. (Springfield, Ill.: Charles C Thomas, 1961.)

The authors review in details the events from 1948 to 1956 in the life of a large group of patients with multiple sclerosis. The cases were carefully selected and a special rating scale of disability was used in following them. The authors attempt to use precise criteria for evaluation of the course and response to several types of treatments in specific groups of patients. Much use is made of modern statistical methods which makes some difficult and laborious reading for a clinician. The clinician will, however, have no trouble in following the main conclusions of the authors which may appear to be better validated than is actually the case; only a medical statistician could evaluate some of the conclusions. This is a unique study in America and, in general, supports much of the classical work of McAlpine and colleagues in England.

The authors do suggest quite strongly that ACTH and the use of blood transfusions in selected patients control the disease or bring about remissions. The method of selecting the patients for, and the technique of giving, each type of treatment are outlined. However, it is evident that further study of such treatments in other centres is needed before physicians can accept such therapy without qualification. In general, the monograph is well organized and many neurologists and others familiar with multiple sclerosis will find it interesting. The scoring method for disability rating may prove useful in studies by others who attempt to evaluate treatment but some simplification of it seems desirable.

ALLAN A. BAILEY, M.D.,
Saskatoon, Canada.

EARLY SWISS SOURCES OF ADOLF MEYER'S CONCEPTS¹M. BLEULER, M.D.²

Adolf Meyer had the benefit of a good medical training in Switzerland. Towards the end of his studies he worked—but only for a short time—at the Burghölzli in Zürich under August Forel, one of the most outstanding psychiatrists of his day. Afterwards Meyer did indeed gather experience from many places, but during his education he never remained for a long period under the influence of a single important clinician or an outstanding psychiatric school. In a certain sense he was a self-taught psychiatrist. In any case, he never took over the ideas of another psychiatrist to develop further his own epoch-making concepts.

However, even the greatest men do not create in a vacuum but have ties with the ideas of preceding generations. Up till now we have known little of the great intellectual currents by which Adolf Meyer was influenced. That he himself did not tell us much is perhaps related to the frequent reluctance of Swiss emigrants to advertise their Swiss origins in the new land.

In conversation with his Zürich relatives (the descendants of his cousin) an intellectual tie was revealed between Adolf Meyer and a man who lived in the Canton of Zürich in the 18th century and whose fame spread far—Jakob Gujer, known as Kleinjogg or Little Joe.

Kleinjogg was born in 1716, one of five brothers, in a country village near Zürich (Wermatswil). There seems to be little in the externals of his life that could call forth worldwide recognition. With a brother he took charge of his father's heavily mortgaged farm and, contrary to expectations, made it prosper. Later he took over the management of another farm in the immediate vicinity of the city—the Katzenrütihof. He devoted his entire life to his farming operations and to his large family.

He never left the confines of his native place. He never thought of writing books and indeed was in no position to do so. His life was modest in the extreme. He was a peasant, not a free man, and subject to the guild regulations of the city. He died in 1785 on his own soil and left the farm to his children.

This modest, plain Zürich farmer had already in his lifetime won international respect. His fame began when a Zürich doctor (Hans Kaspar Hirzel, born 1725) learned to know and love him. Hirzel wrote books about his life and work which were translated into French and became known in many lands. Following upon this the intellectuals of Zürich and of the whole of Switzerland took an intense interest in him. Heinrich Pestalozzi was influenced by him and asked for his advice. Johann Jakob Lavater wrote of his impression upon meeting Kleinjogg: "It was as if a dim vision of humanity already present in my soul was to be lighted up! . . . Silently my soul expanded! A sweet glimpse of unspoiled humanity stood before me."

Kleinjogg's fame went far beyond the boundaries of Switzerland. Goethe visited him on the twelfth of June, 1775. Afterwards in a letter he called Kleinjogg "one of the most magnificent creations this earth has brought forth." Similar praise was given him by many who visited him, including high nobility. Others who knew him only at second hand were also inspired by him, including Jean Jacques Rousseau and Mirabeau, the French Tribune of the People.

In what did the fame of this simple man consist? One might assume that he had by chance become a symbol of the almost fanatical devotion to nature characteristic of the time, an embodiment perhaps of Rousseau's ideal of simplicity. Certainly it may have been a preliminary condition of his fame that life close to nature was being idealised. But Kleinjogg could not have

¹ Translated by Miss Bowers and Miss E. E. Winters, Baltimore, Md.

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become famous without great personal merits.

First of all he improved the methods then in use of cultivating the land and for this reason he began to become known. He took the lead in crop rotation and better fertilization, lightened heavy soil by mixing it with sand, introduced the growing of potatoes into the Canton of Zürich, and many other things. We need not go into further detail. The chief point is that he did not cling to the ancient customs of his fathers, as did his neighbors who farmed the land without any thought for the best way of doing it. Kleinjogg pondered over his work. And what was more, if he concluded that a course of action was appropriate, he adopted it without hesitation. At that time this was something remarkable, for little initiative was expected from the peasant. He was supposed to follow good old customs and do what the government prescribed. To appeal to his own reason and to have faith in the success of an innovation which he himself had thought out was indeed revolutionary.³

Kleinjogg was able to clothe his efforts in clear language—even though he did not write them down. He won attention through what he said and through his own example. He expressed himself simply and directly—for example, one must “take the shortest way.” He meant by this that if one has seen the way, he must take it, even if it departs from tradition. His hearers came to believe him because they saw the results. In spite of all the gloomy prophecies of the conservatives, he was able to free the farm from debt and to expand his operations. Kleinjogg let sound common sense rule in agriculture.

But not only in agriculture. One must begin “the reform of the farm . . . with the moral reform of its inhabitants.” Early and late Kleinjogg thought of how men could become healthy and happy. His in-

sight anticipated the most important principles of modern mental hygiene. He taught something that today we call teamwork. Progress will come only from working together. Gentry and peasants must collaborate with each other. He taught this, however, not only in words, but let a community spirit govern his daily life. He worked his land in close association with his own and his brother's families. He esteemed each member equally, but gave him work according to his ability. He undertook agricultural experiments for the Natural History Society of Zürich, for the City Fathers.

He said that teaching and exhortation without example were of no avail. Once he took over his neighbor's “lazy” farmhand and was satisfied with his work. The neighbor wanted to know how this was possible. Kleinjogg explained that he allowed the servant to work beside him, and the boy noted his joy in his work. Since the neighbor had avoided and despised the fieldwork which he had given his servant, the boy had become idle through the master's attitude.

Kleinjogg was convinced that life in the family—the bringing up of children by the parents—was the distinctive characteristic of the human species. He emphasized over and over again that children could become happy and skilful adults only through the example of the parents. He held that harmony between the parents was the highest good, and he lived this conviction. His friend Hirzel wrote, “In his household there ruled only one heart and one will.” He kept his children as much as possible with him, in order to influence them. Work in common was to inspire them.

One could talk for hours about Kleinjogg. Hundreds of pages have been written about him. Our interest lies in the relationship to be found between him and Adolf Meyer.

Adolf Meyer's great-grandfather (Martin Meier, 1741-1799) was a teacher in the vicinity of Kleinjogg's farm. His grandfather (Rudolf Meier, 1790-1870) was a contemporary of Kleinjogg's son, who carried on the paternal farm along the same lines as his father. How very closely Kleinjogg's son lived and worked in the sense and spirit of his father comes to us through a contemporary description of a visit to Kleinjogg's farm in the year 1799. This was a year

³ Dr. Hirzel wrote that for a long time Kleinjogg and his family were “hated by everyone.” People said to him: “We foresee nothing good, since you depart in every way from the usages of our pious fathers.” The abuses which Kleinjogg attacked appeared to many “sacred through long usage . . . In this respect he differed greatly from his fellow peasants, for whom traditional ways of doing things were the warp and woof of life.”

of suffering. The country, including the Katzenrütihof, was laid waste by French, Austrian, and Russian troops. A terrible famine reigned. The city visitor wrote of Kleinjogg's son :

I was astonished at the calm which he possessed, and how he cheered his own people and, in the midst of dire misery, maintained a continuous industry, keeping his household in order, although the food was lamentably poor. I was more astonished, however, to see, even before the beginning of winter, his ravaged fields levelled, worked over, sowed, the remaining traces of the desolation blotted out, and everything brought nearer its former condition than anyone expected.

Adolf Meyer's grandfather, Rudolf Meier, a potter, stove-builder, and the local surveyor, in 1829 surveyed the Katzenrütihof, which up to then had been farmed by Kleinjogg's son. (The measuring tape he used is still in the possession of the family.) Then he leased a part of the farm from the state and took over its management. The farm passed later into the possession of one of his sons, that is, an uncle of Adolf Meyer. There followed also a union between the Meier and the Gujer families through the marriage of a cousin of Adolf Meyer's to a grandson of Kleinjogg's. Relatives of Adolf Meyer still own Kleinjogg's former farm and carry it on. Kleinjogg's spiritual inheritance was entrusted to them through family tradition and they hold it in high honor.

In his childhood Adolf Meyer knew his grandfather, who lived so intimately with Kleinjogg's heritage. The ties of Adolf Meyer and his relatives with the Katzenrütihof remained close up to this century. Amongst other things, Adolf Meyer's mother, after she had lost her husband, lived for about two years in the Katzenrütihof (c.1897-1899) and later in the neighborhood.⁴

Given then the physical relationship between Adolf Meyer and the heritage of Kleinjogg, it is also easy to prove intel-

lectual bonds. It was Adolf Meyer's great merit to clear away rigid, progress-hindering traditions in psychiatry. He made possible an unprejudiced and realistic evaluation of mental disturbances by bursting the stiff frames of the old nosology which allowed no fruitful progress in genetic research to emerge. Untroubled by old thought-schemes, Meyer observed in psychiatry what lay before him and drew conclusions from it. With alert eyes and mind he took the shortest way and did in psychiatry what Kleinjogg had done in agriculture. "I was quite astonished to find him free of old prejudices," wrote Hirzel in 1792 about Kleinjogg—and the same thing was written 150 years later by visitors to Adolf Meyer.

Like Kleinjogg Adolf Meyer believed in the plasticity of man. Adolf Meyer brought home to science the importance of the community, of the relationships of men amongst themselves, in the life-development of both the healthy and the sick—as Kleinjogg had done before him. Both great men lived their conviction that one must cultivate human relationships in the family circle in order to advance the evolution of succeeding generations.

It was self-evident to both men, also, that psychology and biology should be viewed with the same eyes and that one supplements the other. Kleinjogg often compared plants, animals, and men as to the conditions of their development.

Kleinjogg's highest goals for mankind corresponded to Adolf Meyer's psychotherapeutic goals, to his high esteem for family life and human interrelations, as well as to those later taught by psychoanalysis. Inner forces struggling against each other should come to adjustment. In order to arrive at this goal, the child must, according to Kleinjogg, grow to maturity through the example of the parent; the patient, according to Meyer, in the atmosphere created by the physician. The assumption on which this rests is the maturity of the father and of the psychotherapist. Of Kleinjogg Lavater said : "Thinking, speaking, and acting were in him always in the greatest harmony." Kleinjogg said to Hirzel: "The true greatness of man lies in a proper balancing of

⁴ I am indebted to the relatives of Adolf Meyer living today, Herr Jakob Meier of the Katzenrütihof and Herr Jakob Meier of Glattbrugg, for the statements concerning the connections of the Meyer family and the Gujer family.

actions with understanding."⁵

Thus we may assume that the "common sense psychiatry" of Adolf Meyer had its spiritual roots in Kleinjogg's "common sense philosophy."

LITERATURE ON KLEINJOGG

A remarkably comprehensive description,

⁵ "Die wahre Grösse des Menschen besteht in einem richtigen Verhältnis der Handlungen mit unseren Einsichten."

out of which the above quotations have been taken, is :

Fritz Ernst : Kleinjogg, der Musterbauer. Zürich, Berlin : Atlantis Verlag, 1935.

In this book is also to be found a list of sources.

The chief contemporary work about Kleinjogg is :

Johann Kaspar Hirzel : Auserlesene Schriften zur Beförderung der Landwirtschaft. Zürich, 1792.

A WORKING CONCEPT OF MATURITY OF PERSONALITY¹

JOHN C. WHITEHORN²

The psychiatrist does his clinical work in a particularly personal mode. Like other physicians he is concerned with infectious diseases, toxins, metabolic disturbances, congenital anomalies, genetic handicaps, and other relatively impersonal factors or processes which hinder people in coping with life situations, but the psychiatrist has a particularly strong interest in the patient's personal experience of coping, and in the possibilities of helping the patient cope with life with greater effectiveness and with less distress. All physicians, concerned with the health and welfare of their patients, have an interest in restoring their patients' self-confidence and effectiveness, but it is the psychiatrist who has this concern as the central point of his professional task.

Psychiatric patients in general are not coping effectively with their personal life situations. In general, the disability and distress which bring the patient to a psychiatrist are manifestations of some ineffectiveness or disturbance in social functioning. The psychiatric patient, in attempting to cope with his life situation, is characteristically using an unsuitable pattern of reaction—often grossly unsuitable. It is somewhat inaccurate to say "attempting to cope with his life situation," for the patient often is not really coping with life, but only posturing, that is, demonstrating a pattern or attitude which has little or no useful effect in his life situation, but in which he persists. The attentive study of the patient's pattern of reaction, considered in relation to his life situation and personal biography, will often reveal that his current non-useful pattern of behavior has much relevance for some earlier issue in his life, unresolved at that prior time. As a clinician, eager to gain a useful understanding of psychiatric patients and their problems, I have found much help in the concept of "unfinished business." In-

tensive study may reveal that the current life situation, as the patient has been experiencing it, contains for him this older issue; and in this sense his mode of reaction has some relevance, but oblique relevance. To an outsider's common-sense view the patient's behavior or feelings appear quite inappropriate. His behavior is very likely to be misunderstood by those with whom he is reacting, so that he fails to be constructively effective, except as he may gain from others some dependency, protection and care, by reason of his distress and disability. Even the psychiatric expert may have difficulty in understanding the issue, as the patient experiences it.

The repetitive, ineffectual pattern manifested by the psychiatric patient is usually at first observation a puzzling phenomenon. Seeking appropriate words to describe the patient's behavior one may at times find it appropriate to use terms like "childish," or "infantile" or "adolescent." I recall, for example, a middle-aged woman patient, in a morose and gloomy state, who forcefully told me, "I'm no baby. I know what I want, and I want what I want when I want it"; and this statement has seemed to me a beautifully clear-cut expression of an infantile attitude.

Such clinical characterizations of a patient's attitudes as immature have seemed to me at times very apt and very meaningful. They deserve careful study and systematic formulation,—a task which has engaged much of my interest for some years.

There was ready at hand, a few decades ago, when I began to give serious attention to this problem, a beautifully clear and simple formulation of levels of immaturity, set forth by Dr. Sigmund Freud in terms of his theory of libidinal determinism. This was the theory of erogenous zones, and of the fixation of libidinal interest at the oral, the anal, or the genital phase of psychosexual development. But this Freudian formulation seemed to me much oversimplified, and often quite beside the point. The useful meaning about human behavior

¹ A lecture given at Dartmouth Medical School, Hanover, N. H., May 29, 1961.

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which we seek to express when we use words indicative of immaturity is a meaning concerned with attitudes about responsibility and authority, only tangentially related to the libidinal interest with which Freud was so strongly preoccupied. The practically useful meaning of maturity or immaturity is centered, as I see it, on the humanly inescapable problems of leadership, authority and responsibility,—inescapable because man is a domestic and social animal. The domestic and social patterns of living, which constitute the human way of living, contain inherently the problem of leadership. Freud was not altogether wrong, I think, in relating infantile attitudes to the mouth and anus. The experiences of weaning and toilet training are about the earliest impressive experiences of authority and frustration by other human beings. "Unfinished business" in respect to these issues is often encountered in the psychiatrist's work. But the original Freudian formulations here were somewhat misleading in placing all motivational emphasis upon libidinal interests.

In formulating our conceptions of human nature, we of the late nineteenth and early twentieth century have been strongly influenced by the Darwinian revolution. Psychology has become a subdivision of biology,—“psychobiology” as Adolf Meyer called it. Mentation got a functional orientation: perception, cognition, affect and conation were freshly conceived as preparatory aspects of behavior. That was all to the good, in my opinion. But in the early post-Darwinian enthusiasm for biologizing human nature, excesses occurred. Particularly were instinct theories pushed to disproportionate extremes. Freud based his formulations of personality development upon the sexual instinct, on the basis of certain clinical observations and inferences. Yet, instinct is but a fragment in the life of man. In regard to instinctive endowment man is far surpassed by many animal species. Each human being is born weak and helpless and survives only by the sufferance and sympathy of others, enduring a long period of helplessness and inadequacy, indeed an unending dependency. Human beings, we may truly say, never do become wholly mature and independent, in

the sense in which we might describe some animals in their adult stage as mature and independent. Human beings achieve such a state as we usually call maturity only by developing a good working accommodation to the inescapable fact of their inevitable interdependence.

Let me recite just a few of the items illustrative of persisting human immaturity: The adult human remains childishly curious and distractible; he is readily provoked to laughter; he seeks playful activity, sometimes at great cost; he does not develop fully the specialized capacities which distinguish his more maturely developed anthropoid cousins and which enable them, biologically, to live more independent lives. In comparative analogies, man is a weakling baboon, an incompetent chimpanzee, an awkward monkey. He does not even grow an adequate coat of hair.

The Dutch anatomist Ludwig Bolk accumulated an impressive body of evidence that the human adult resembles in many anatomical details the foetal state of his anthropoid ancestors or cousins. Bolk's observations prompted a foetal theory of the origin of man, namely, that man is a creature of ape-like origin who couldn't reach maturity but was condemned, so to speak, by genetic mutations to suffer a suppression of his previously more adequate ape-like biological potentialities. By this theory, the effects of suppressor genes have kept man in some respects, and to some degree, in a permanently foetal or infantile condition, compared to his immediate predecessors and the other anthropoids who took a different line of genetic development.

I make use of this theory to suggest that there may be a very sound reason why in the discussion of maturity and immaturity we are often embarrassed by our inability to give a wholly satisfactory definition of what we mean by maturity. As I have said, maturity in human life is an ideal rather than an actuality,—something toward which we struggle but do not quite reach. At any rate, maturity is never a gift which comes to one like a trust fund upon reaching a specified birthday. Whatever approximation to maturity one may attain is attained through conduct and behavior, not by merely waiting for the maturation of

instinctive endowment.

At the level of responsible human performance, human behavior and its motivation can be more adequately and reliably understood in terms of attitudes rather than of instincts,—attitudes developed through social experience in a milieu characterized not merely by censorious and authoritarian controls but also by gregarious and protective tendencies. Thus, attitudes, socially cultivated, have much greater significance for social-emotional value and for practical effectiveness in human living than any human instinctive endowment.

Conceptually, for the professional student of human behavior, concerned to establish sound observational supports for his motivational inferences, the term "attitude" has a further value. It provides a more directly verifiable meaning for working with actual human beings than is provided by the concept of instincts. Instinct concepts, when utilized for the understanding of human behavior, are rather remote abstractions from the observable realities of human beings in action; such abstractions have for some workers the attractiveness of apparent depth and ultimate verity. Attitude concepts give one a somewhat less gratifying feeling of grasping the ultimate, but give a compensating sense of observational reliability because attitudes are more directly discernible than instincts, while at the same time attitudinal characterizations leave open the possibility for those who are so disposed to make further inferential leaps toward instinct formulations, if and when justifiable.

CHARACTERIZATIONS OF IMMATURE ATTITUDES AND IMMATURE LEVELS OF PERSONALITY DEVELOPMENT

Having presented, sketchily, a biosocial frame of reference, I shall now go back to the clinical descriptive work and present briefly a 4-stage scheme for characterizing immature levels of personality functioning, which I have designated for obvious reasons as the infantile level, the childish level, the early adolescent level, and the late adolescent level.

Infantile level. At the infantile level one expects from others a limitless amount of service and consideration, without feeling

any reciprocal obligation.

Childish Level. At the childish level there has developed some sense of responsibility, but of delegated responsibility, the kind that is completely erased by a good excuse. The alibi habit is a characteristic manifestation of this stage. Great circumstantiality of speech is a useful clinical clue. Persons at the childish level expect complete reliability in others but only formal effort, up to the excuse level, in themselves. They may expend more effort in framing acceptable excuses than might be required to get a job done. Obsessiveness as a substitute way of establishing merit is rather characteristic of this level. Praise or blame is the focus of attention.

Early Adolescent Level. At the early adolescent level exhibitionism and prestige-seeking are the outstanding manifestations. There is a strong push to assert one's personal significance, and to sustain it by repetitive demonstrations. Badges and trophies have high value as demonstrable symbols of prestige. The striving for self-importance requires extra-familial supports and these are characteristically found in idealistic hero-worship and in gangs.

Late Adolescent Level. The late adolescent level is the stage of "isms,"—romanticism, idealism, or cynicism, for example. The sense of social responsibility has become more generalized in the form of loyalty to a cause, as well as to a hero or a gang. The tendency to excess is still present, as in early adolescence, but it is doctrinaire excess rather than strenuous physical excess. The pseudo-sophisticated "line" of talk, the "wisecrack" and the sophomoric savant are easily recognizable manifestations. Sexual interests are expressed in pairing off and in courtship behavior, but success in this field, or the anticipation of success, may have the emotional quality of a conquest rather than of mutual devotion.

CAUTION

Now, I should add a few words of caution in the use of these schematic propositions. First, they are highly schematic. Secondly, I have found by experience that young physicians, learning to study their patients from this point of view, tend to

slip into the use of these terms as epithets, in effect accusing the patient of being infantile, or childish, or adolescent. The real purpose of these concepts is not to place blame, but to help one appreciate the patient's attitudes, for the better understanding of his distress or disability. The physician can be aided to get a more constructive value from these characterizations of immaturity by considering them in relation to human emotional needs.

THREE EMOTIONAL NEEDS

I have found it helpful, therefore, to relate the levels of immaturity to three emotional needs, 1. The need for affection; 2. The need for personal security; and 3. The need for personal significance. I have characterized them as *needs* because it appears to me that a person has to have some satisfaction in these three respects in order to develop and maintain the social assurance required for effective participation with others. The three form a series having relatively different degrees of importance at different stages of personality development. All three needs exist at all stages but the emphasis is different at different stages.

The Need for Affection. The predominant emotional need in infancy is the need for affection. Affection assures protection, care and nourishment; but affection means more. It fosters enthusiastic mutual responsiveness and attitudes of eager expectation in the most elementary social situation of parent and child. Affection provides some assurance of favoritism at a time of great dependency when some special favoritism is greatly needed. In some persons the infantile pattern of dependency upon affectionate favoritism persists far beyond infancy. One may say that such a person has clung to infantile values, or has been fixated at such levels through extreme attachment, but it is my impression that the principal reason for such an extreme block in development lies in the failure of the home to provide the sense of personal security needed to negotiate the next step.

The Need for Personal Security. In order to participate with comfort in the competitive life among other children, or even to endure without extreme distress the uncertainty aroused by parental absence, little

children need to gain from their experiences a reasonable expectation that the universe is dependable. If mother has to leave, mother does come back; food is forthcoming at suitable intervals, and so is affectionate attention.

Later, the custom of sharing goodies, and the custom of taking turns, inculcate a faith that fair play characterizes the operations of the youngster's universe. This faith is supported and strengthened by the interventions of parental figures supporting principles of fair play. Without the faith built on such experiences one feels very much in danger, not only from aggressive attacks, but from one's own tendencies to aggression, which might elicit overwhelming retaliation.

Lack of support or lack of firmness in parental figures endangers this security; frequent and unpredictable conflicts between parents wreck it; favoritism and overprotectiveness from parents inhibit its development. The reasonable expectation of fair play is one of the conditions necessary for a person's eager exploration and adventure in the give-and-take of social living,—not a guarantee of absolute justice, but just a reasonable expectation of fair play. Fair play is a good bargain for all concerned, and most youngsters appear to perceive that it involves obligations to adhere to fair practices oneself.

The psychiatrist not infrequently encounters patients whose faith in fair play or whose sense of security has gained so little validation from experience that they have had to rely throughout life upon favoritism in the infantile pattern. Lacking the sense of security that comes from a faith in fair play, some infantile personalities live life timidly and with great circumspection. Other infantile personalities, with careless abandon, dare foolish risks and impulsive adventures, apparently as means to gain repeated manifestations of the protector's favoritism and power. I have seen such examples in which it appeared that the protector took a childish delight in the extreme expression of favoritism and indulgence, and I have been tempted to label this partnership *infantilism a deux*.

The childhood phase of personality growth, with the emphasis upon the de-

velopment of personal security, covers a good many years and a large experience of role-enactment, whereby the boundaries of social tolerance or social approval may be fairly widely explored.

The Need for Personal Significance. The widest extravagances in testing the limits of social tolerance are likely to appear in adolescence. In the usual course of events in our culture, one feels in adolescence an increased need to assert one's personal significance, sometimes very brashly against authority figures such as parents, sometimes in exhibitionistic physical exploits, and often in late adolescence in a rather exaggerated radicalism or excessive reactive conservatism.

We are also familiar in our culture, perhaps more so than in other cultures, with the grown-up, middle-aged adolescent,—grasping at opportunities for self-display, insatiable in the pursuit of badges of distinction, chasing after sexual exploits or other types of mastery, dramatizing attitudes of impudence or contempt of propriety.

In psychiatric case material one can find abundant evidence that difficulties of adjustment and psychopathological states often involve motivations based upon extreme needs to assert personal significance. The self-assertive behavior prompted by such needs may be quite annoying. As a clinician and a therapist, I do wish, however, to put in some good words for these adolescent motivations. Behavior thereby motivated may be exasperating, but the patients who manifest it do get well, pretty regularly. Such motivations may prove very useful at certain stages of psychotherapeutic strategy.

TOWARD A MATURE PERSONALITY

Up to this point we have been concerned mostly with immaturity. Now we should consider maturity. Complete maturity is an ideal, only approximated in reality. In what we call the mature personality a manageable flexibility of social attitudes has been achieved. This is manifested in a variety of role behaviors, developed through life experiences which have served to fulfill emotional needs reasonably well.

The mature individual has not graduated

to a stage in which he no longer has these needs; rather he has attained flexibility in accepting and acting out the roles which satisfy these emotional needs. In developing his personal accommodation to the basic condition of human life—interdependence—he has had gratifying experiences of leadership and of loyalty, of domination and of submission.

To get along with other people who are in varying stages of maturity a person needs to maintain the capacity for playful good humor. He can, on appropriate occasions, quit being soberly grown-up and enter into adolescent and childish activities with spontaneity and gusto. He can share with lively sympathy in the emotional values pertaining to those less mature levels of social development. He can not only enter into immature emotional contexts, but he can come out of them again, as occasion requires, and resume more responsible roles, also with good humor and with some measure of playful enthusiasm. Indeed, it might be said that the mature person, in order to maintain the emotional attitudes required by the fact of persisting interdependence and to handle the friction generated by such interdependence, has to retain and exercise some propensities for childish playful curiosity and amusement.

CLINICAL USEFULNESS OF THESE CONCEPTS

I would find myself much handicapped in my professional work without some appreciation of the human being's need for affection, for personal security, and for personal significance, and without some means of recognizing levels of immaturity which characterize persons who have suffered critical deprivation of these needs. I would lack understanding of many patients whose anxieties and frustrations are not readily appreciated when viewed from an adult, common-sense point of view, but whose problems become understandable when one appreciates the immaturity of their personal development and the extent to which their sense of well-being is dependent upon the preservation of social contexts suited to immature levels. In such a frame of reference one can also understand better a person's temporary regression to earlier levels of immaturity in the face

of frustrating and intolerable life situations.

HOW MUCH FREE CHOICE?

Having spoken now at some length about the environmental deprivations which may seriously limit the development of mature attitudes, I should now try to balance the discussion by some reference to a person's role in his own development. It happens that I am not one of those who believe in complete, 100%, determinism. To a small extent, but to a significant extent, human beings, as I see them, seem able to exercise some degree of choice in behavior.

According to the foetal theory of the origin of the human species, suppressive genetic mutations made man enduringly immature, as compared to the chimpanzee, and prevented him from developing the fully specialized repertoire of his Simian cousins. We may be handicapped by such deficiencies, but we have gained a degree of freedom in modifying our behavior. We have gained some chance of escape from the coercive force of instinctive patterns of life, and we have developed patterns of domestication and socialization which permit a certain degree of freedom of personal preference or choice.

It is indeed one of the significant achievements of civilization to have gained for so many an enlargement of their individual freedom of choice of behavior. The rules

required by the social nature of human living are not too highly restrictive. Some leeway exists so that individuals may give acceptable expression to their temperamental differences, and thus participate with gratification and enthusiasm within the broad bounds required by their mutual interdependence.

Unfortunately, many people feel, unnecessarily, that they are oppressed or deprived, and fail therefore to develop their opportunities and employ their capacities. This is particularly true of the psychiatrist's patients. The basic psychotherapeutic task can be distinguished from merely comforting manoeuvres, or merely supportive, or corrective, or interpretative techniques. The basic psychotherapeutic task consists essentially in awakening a person to the more enthusiastic and spontaneous exploration of his available degrees of freedom, and in eliciting hopeful and constructive efforts along lines of his interest and competence. The potentialities thus evoked encourage the patient to cope more effectively with his life situation and may even lead to greater maturity and achievement than previous to his illness. It is one of the greatest gratifications to the psychiatrist when he is able to evoke in an immature patient the faith and enthusiasm and effort by which he achieves a more advanced level of personal growth.

COMPARATIVE ANALYSIS OF THE ACTION OF BUTYRYPERAZINE AT MANHATTAN STATE HOSPITAL AND THE UNIVERSITY PSYCHIATRIC CLINIC AT ERLANGEN

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A discrepancy between the clinical findings in this hospital and the University of Erlangen following treatment with butyrylperazine has stimulated a comparative analysis of the data(1, 2). While the literature on clinical evaluation of drugs grows each year, there has been a striking dissimilarity in reports of trials with the same drugs. A tacit assumption has been that all things being equal, the drug constituted the only variable. Nevertheless, emphasis has been placed recently on two areas which can potentially influence the final results of drug trials—(a) differences in the setting(3, 4), and (b) particular attributes of the investigator(5, 6).

It has been assumed that if the disease treated (schizophrenia), was the same in different parts of the world(7, 8), then the favorable effects of drugs upon the various symptoms should be susceptible to reduplication. This has been true with some of the older and a few of the new compounds. Others have yielded excellent results in some countries(9), but poor to mediocre results elsewhere(10).

Butyrylperazine was synthesized by Horlein, while Wirth, and his collaborators did the pharmacological investigations(11). Flugel, *et al.*(12), have reported on their clinical trials of this and different congeners, finding that the butyryl derivative was most potent. Studies of the same drug, secured from the Farbenfabriken Bayer, Leverkusen, in the research ward under conditions standardized since 1957 could not duplicate the German findings(2). A review and comparison of our material indicated clearly that there were important differences in both groups that required

further investigations.

Twenty acute and chronic female psychotic patients were studied at Manhattan (ranging in age from 18 to 53 years), while in Erlangen there were 26 patients with an age range from 17 to 54 years (Table 1).

TABLE 1
Age

	MANHATTAN	ERLANGEN
To 19 years	1	1
20-29 years	2	5
30-39 years	6	10
40-49 years	10	7
50-59 years	1	3
60-69 years	0	0
>70 years	0	0

TABLE 2
Social Class

	MANHATTAN	ERLANGEN
Upper middle class	0	2
Middle middle class	1	5
Lower middle class	5	13
Lower class	14	6

TABLE 3

COUNTRY OF PARENTS' ORIGIN		MANHATTAN	ERLANGEN
	MOTHERS	NO. OF PATIENTS	
U. S. A.		10	0
Russia		5	0
Roumania		1	0
Ireland		1	0
Poland		1	0
Germany		1	26
Palestine		1	0
	FATHERS		
U. S. A.		9	0
Russia		4	0
Austria		1	0
Roumania		1	0
France		1	0
Palestine		1	0
Poland		1	26
Germany		1	0
Unknown		1	0

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There were 2 manic-depressive patients in the Manhattan group, while the remainder in both was schizophrenic. The onset of illness and number of previous hospitalizations were similar for both groups. The social classes were lower middle or low (Table 2). The parents of the Manhattan patients showed a heterogeneous national origin, as compared with the Erlangen group (Table 3). Sixteen of the Manhattan patients were born in the United States, while in the Erlangen group all patients were of German origin.

The drugs were administered *per os*, although at Manhattan the intramuscular route was used the first 1-5 days in 17 patients (Table 4).

TABLE 4
Dose Range—Initial

DAILY DOSE	MANHATTAN	ERLANGEN
10 mg.	—	3
15 mg.	—	1
20 mg.	—	12
30 mg.	3	5
40 mg.	—	0
50 mg.	—	0
60 mg.	—	0
70 mg.	—	0
80 mg.	—	0
90 mg.	—	0
100 mg.	—	0
10 mg. I.M.	0	3
15 mg. I.M.	0	0
20 mg. I.M.	14	2
40 mg. I.M.	2	0
20 mg. I.M.	1	0
90 mg. oral		

The patients were either recent admissions or chronically ill who had not responded to prior medication.

RESULTS

The duration of treatment was similar in both groups. The final daily dose varied considerably between the 2 groups (Table 5), with a daily average dose at Erlangen of 26 mg., and 126 mg.⁴ at Manhattan.

The extrapyramidal reaction occurred 18 times in 26 patients (Erlangen), but only in 8 of 20 patients at Manhattan. There were no dyskinetic reactions in the latter

⁴ Average based on 19 patients.

TABLE 5
Dose Range—Final

DAILY DOSE	MANHATTAN	ERLANGEN
10 mg.	—	—
15 mg.	1	2
20 mg.	—	15
30 mg.	6	6
40 mg.	—	0
50 mg.	—	2
60 mg.	2	1
70 mg.	—	—
80 mg.	—	—
90 mg.	2	—
100 mg.	—	—
120 mg.	1	—
150 mg.	2	—
270 mg.	1	—
300 mg.	4	—
20 mg. I.M.	1	—
90 mg. oral		

group, but this was noted in 11 of the German patients.

The therapeutic effects were mediocre at Manhattan, but excellent in Erlangen (Table 6).

TABLE 6
Results

	MANHATTAN	ERLANGEN
Much improved	4	18
Improved	4	7
Unchanged	11	1
Worse	1	0

The drug did not produce much listlessness or apathy in either setting. The number of side effects was minimal. There were no blood dyscrasias or evidence of hepatic abnormalities.

DISCUSSION

It would appear that the striking dissimilarities in findings should have some basis (biological, social or biosocial) which have either been unsuspected or ignored before in similar situations. The diagnostic groupings were eliminated from consideration, since they were similar and criteria for diagnoses were the same. The age and duration of illness before admission were subjected to statistical analysis, and no significant differences were found between the groups.

There was a disparity in social class (Table 2), made all the more important by differences in social structure between the United States and Europe. It is fairly certain that the Erlangen lower class would be considered here as being in the lower echelons of the middle class. It would be difficult to find an equivalent group for the New York lower class in the area served by the Erlangen Psychiatric Clinic.

The differences in initial dosage schedules were a factor of experimental design, since the research technique at Manhattan often uses the intramuscular route for the first 2-5 days to achieve rapid control.⁵ However, better than half of the Manhattan group finally received 90 mg. or more daily, while 17 of the Erlangen group received 20 mg. or less (Table 4). Theoretically, these relatively high doses should have produced an inordinate number of extrapyramidal reactions in the Manhattan group. Actually, the reverse was true. At Erlangen, an extrapyramidal reaction was noted at 15-20 mg. daily. Three of the 4 Manhattan patients who received 300 mg. daily developed the extrapyramidal reaction. The daily dosage of the other 5 patients was 30, 90, 150, 160, and 270 mg., respectively.

Dystonic reactions tend to occur in the younger age group receiving psychotropic drugs. Yet this was noted in 42.3% of the Erlangen patients with an age range of 17-52 years, and a mean of 35.6 years, and not at all at Manhattan where the age range was 18-56 years with a mean of 39 years. It is conceivable that these reactions may in some way be related to the route of administration.

The results were mediocre at Manhattan with 8 of 20 patients showing improvement, while the greater majority of the Erlangen group was improved. Certainly it could not be said that this was a factor of either dose or period of treatment, since the doses of the Manhattan group were the highest, with the period of treatment approximately the same for both. The type of patient treated, in terms of chronicity and diagnoses, was approximately the same. The problem of criteria for change will have

⁵ We recognize this concept to be open to question.

to be considered in future studies, since this is essential in the comparison of results. Nevertheless, the biologic responses must still be explained.

It is of interest to note that the Erlangen group was composed of about equal numbers of patients born in Franconia (the area in which the hospital is situated) and those provinces now belonging to Czechoslovakia and Poland. There were some differences in results between both groups, but the smallness of the sample did not allow any statistical validation.

The data are suggestive but far from conclusive regarding the contributory role of social factors to the observed differences. Eventually, the differences in social class might be indicative of a household more receptive to the patient's return home. However, our data refer only to in-hospital improvement. It is conceivable that methodologic differences could have played a role in producing such biological results. Different settings, physicians, and staff, as well as different technical approaches, can be implicated. It is difficult to see how methodology can produce such differences in biologic reactivity (Tables 4 and 5). It can be argued that since chlorpromazine and other drugs gave similar results in both continents, the dissimilarity with butyrylperazine is indicative of a different therapeutic technique. Our comparative observations give no substance to support such a proposal. It is known that some drugs have given the same results (chlorpromazine, prochlorperazine and imipramine), while others have not (haloperidol and Taractan). We believe it possible to learn more about drug action by an analysis of these differences.

It could be assumed that the dose requirements and neurologic reactions are the sum total of the individual's genetic constitution, and the responses to environmental influences (chemical, physiological or social). Biologic reactivity results from the summation of organic responses, in themselves the result of gene direction and interaction with the environment. Any strong differences between groups would implicate either (a) different modes of biological reactivity which in some cases may be based on learned environmental factors, (b)

treatment resistance resulting from fusion of genetically heterogeneous groups, or (c) different rates of metabolism of the drug which may well be under genetic control.

If the foregoing hypotheses are acceptable, then it can be reasoned further that differences in organ responses to a standard condition (here it is the administration of butyrylperazine) can be accounted for by either genetic control, environmental influences, or both. Other than the social class differences, there are no apparently strong environmental factors that seem to have been operating. The only differentiating factors between these two very similar groups were the dosage requirements, the side effects and the clinical results.

We, therefore, hypothesize that the difference in response was a function of the genetic information available to each group.

SUMMARY

1. Butyrylperazine was administered to 20 patients at Manhattan State Hospital, New York City, and 26 patients at the University Psychiatric Clinic of Erlangen, West Germany.

2. There were significant differences between both groups in (a) dosage requirements, (b) side effects, and (c) clinical results.

3. It is suggested that genetic factors may play some role in explaining at least two of these findings (2a and b).

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DIAGNOSTIC CONSISTENCY IN A PSYCHIATRIC LIAISON SERVICE

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Diagnosis in terms of standard nomenclature has not enjoyed much esteem during the past two decades among American psychiatrists. Partly they have been in revolt against the tendency Kant caricatured when he wrote that doctors believe they have done quite enough for their patients if they have given their disease a name(1). Patterson(2) pointed out in 1948 that a diagnosis was not a prerequisite for treatment. Another factor was that terms such as schizophrenia, or depression gave relatively little information about a patient's specific intrapsychic turmoil. Unfortunately their successors, hostile-dependent, or castration fear, which have come to be so glibly used, are little better in that regard, and defy meaningful classification because of their inherent complexity. Masserman (3, 4) among others, has fostered the shift in emphasis to conceiving the patient in terms of motivations and dynamics, denigrating diagnosis. But the recent appearance of epidemiological studies in psychiatry, relying as they do on some form of readily classifiable nosology, demands a reassessment of our psychiatric nomenclature. There have been few studies even of consensus in the use of terms.

In the psychiatric liaison service of The Johns Hopkins Hospital the most prominent gross feature of a patient's usually multifaceted psychiatric illness is used for the purpose of cataloguing cases. We observed a high degree of concordance in the diagnoses assigned by the service during two successive years.

Our data were collected on four public medical wards of the hospital that were in continuous operation throughout the 2-year period. In each instance the attending medical interne referred the case to us, and every case for whom the consultation request was answered is included; a few patients either died or were discharged be-

fore being seen. The setting has been elsewhere described at length by Meyer and Mendelson(8).

During the first year of the study (July 1, 1957-June 30, 1958) 5 psychiatrists saw 128 patients of a total ward population of 2,164. Several patients were given more than one diagnosis, *e.g.*, 1. Acute brain syndrome due to barbiturate intoxication, and 2. Psychoneurotic reaction, depressive reaction. In all, 150 diagnoses were made in this year. Four psychiatrists saw about an equal number of patients; one saw only 3. During the second year (July 1, 1958-June 30, 1959) 166 patients of a total ward population of 2,438 patients were referred for consultation. One-hundred eighty diagnoses were made by one psychiatrist(M.S.W.), who had not previously worked as consultant on these wards and had no knowledge of the diagnoses assigned during the previous year. All psychiatrists used the diagnostic reference manual authorized by the American Psychiatric Association in 1950, familiarly known as the "gray book." (We have, however, here deviated in grouping all depressions together. It is often difficult to decide in a relatively short time whether a patient should be called psychotic. Communication is usually poor, and elements of both psychotic and non-psychotic thinking and behavior seem to co-exist.)

The slight increase in the total ward population in 1958-59 was distributed among both sexes and races with a slight preference for Negro men in early middle years. Possibly the higher rate of referral in the second year was due to the psychiatrist's frequent attendance at medical rounds; thus he was asked to see more cases than he would have otherwise.

Table 1 presents the expanded form of the results. In Table 2 the groups are compressed to show more clearly similarities and differences. The total number of diagnoses was used as denominator in calculating percentages.

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TABLE 1

	1957-1958	1958-1959
Total ward population	2,164	2,438
Total patients seen	128	166
Percentage seen	5.9	6.8
Total diagnoses made	150	180
Organic brain disease (T)*	31	50
Acute brain syndrome	20	27
Chronic brain syndrome	11	23
Schizophrenias	15	15
Depressions, including psychotic	23	26
Psychoneurosis, except depression (T)*	20	28
Anxiety	9	11
Conversion	8	10
Obsessive-compulsive	2	5
Other	1	2
Psychophysiological disorder	6	2
Situational reaction	3	3
Mental defective	1	4
Personality disorder (T)*	38	34
Passive-aggressive	23	21
Sociopathic	4	6
Other	11	7
No diagnosis	13	18

* (T) Refers to total.

TABLE 2

	1957-1958	1958-1959
Organic brain disease	21%	28%
Schizophrenia	10%	8%
Depression (neurotic and psychotic)	15%	14%
Psychoneurosis (excluding depression)	13%	16%
Personality disorder	25%	19%
Other	7%	5%
No diagnosis	9%	10%

% Given of total diagnosis.

There is very little difference in the proportionate distribution of psychiatric illness between the years.

DISCUSSION

The ideal measure of consistency among psychiatrists in the use of diagnostic terms would be to have several psychiatrists evaluate the same cases. Ash(5) reported on this method in 1949. He found that 2 psychiatrists agreed on the major category in about 60% of cases; agreement between 3 psychiatrists occurred in 45%. Rosenzweig, *et al.*(6), found that with patients in a state hospital who had been there for 2 years, 2 psychiatrists familiar with the hos-

pital agreed on diagnosis 96% of the time. Vera Norris(7) compared the diagnoses assigned in an observation unit with those subsequently given in the mental hospital. She found an overall concordance of about 60%.

In our series we have only similarities. The patient population was drawn from the same section of Baltimore during the 2 successive years. It was admitted to hospital by the same process of selection each year and referred for psychiatric opinion when necessary under the same hierarchical arrangement among the house-staff. Each year, however, it was a different patient

population and a different house-staff. In the first year the diagnoses were assigned by 5 psychiatrists, all of whom had had some of their training at the Henry Phipps Clinic, while in the second year they were assigned by one psychiatrist who had been trained in the same geographic area, but at different places than his colleagues.

We conclude that in a large ward population, drawn annually from the same segment of a city, and admitted to hospital under the same criteria, a consistent rate of different psychiatric conditions occurred; these were diagnosed highly consistently by different psychiatrists of approximately equal training.

It seems hardly necessary to emphasize that the concepts of mental illness are developing and changing; nonetheless, it is an item of importance if, in existing diagnostic terms and current concepts, diagnoses can be made with consistency. Epidemiological studies, for example, require such consistency. We believe our findings confirm the value of diagnoses for use in this way.

SUMMARY

This report suggests that there are gross constellations of mental disorder psychiatrists routinely identify with consistency, using the current standard psychiatric nomenclature. Striking similarity in the frequency with which diagnostic categories occurred during two successive years in a psychiatric liaison service are cited as evidence.

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RELIABILITY OF PSYCHIATRIC DIAGNOSES :

1. A CRITIQUE OF SYSTEMATIC STUDIES ¹

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The attitude of psychiatrists regarding the reliability of psychiatric diagnosis is characterized by two opposing trends. On the one hand, the wide diversity of articles about specific nosological categories attests to the implicit acceptance of the diagnostic classifications; these articles range in content from individual case reports to large scale pharmacological, psychological, and physiological studies. In these studies, the diagnostic categorizations form an integral part of the generalizations drawn by the authors. In contrast, a growing number of writers have expressed disillusionment with or frank distaste for the current system of classifying psychiatric patients (4, 9, 16, 21). Some have proceeded to the point of denying the justification for the continued use of certain time-honored, nosological categories such as schizophrenia (4). The general attitude of discouragement is epitomized by the statement of Pasamanick and his co-workers: "Psychiatric diagnosis at present is so unreliable as to merit very serious question when classifying, studying, and treating patients' behavior and outcomes" (16). Such opinions certainly warrant a serious scrutiny of the evidence on which they are based and further systematic studies to determine whether the present system of diagnosis needs to be revised.

DEFINITION OF "RELIABILITY OF DIAGNOSIS"

In assessing the diagnostic system it is important to distinguish between those properties related primarily to validity and those aspects concerned with reliability. The validity essentially refers to the accuracy with which the classifications define behavioral entities. The reliability, on the other hand, represents the degree to which

the same category is chosen upon repetition of the diagnostic procedure.

When the reliability of the diagnostic system is considered, it is important for purposes of clarity to specify which component of the system is being evaluated: the nosology, the diagnostic technique, or the diagnostician. The reliability of the nosology may be considered from two standpoints. The first is its constancy or "temporal reliability" (analogous to test-retest reliability). This characteristic is expressed by the degree of regularity with which the same diagnostic label will apply to a given patient at different points in his illness. This does not assume that the manifestations of the illness remain constant but, on the contrary, that the same diagnostic label will still be applicable despite changes in the clinical condition of the patient. The second index of the reliability of the nosology is the degree to which it facilitates the selection of the same diagnostic label for a given patient by different diagnosticians. A nomenclature which is constructed so as to permit only a low level of agreement even between highly trained and skilled diagnosticians would be judged to have a low level of reliability.

Similarly, in determining the reliability of particular diagnostic techniques (for example, the mental status examination, history-taking or projective tests), it is essential to ascertain the constancy of the derived results when the technique is repeated after a lapse of time as well as the consistency with which the instrument will yield the same results when used by different diagnosticians. The third component of the diagnostic system *viz.* the diagnosticians, may be evaluated in a similar fashion in terms of the consistency and variability of their observations and of their interpretation of the clinical material. The basic data for this appraisal are obtained by having periodic appraisals by the same diagnosticians in addition to separate appraisals by different diagnosticians.

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REVIEW OF SYSTEMATIC STUDIES OF RELIABILITY

In view of the acknowledged importance of diagnosis for research, treatment, and teaching, the previous systematic studies of the reliability of psychiatric diagnosis are deserving of close methodological analysis. In a few of the summaries presented below, the data reported by the authors have been reanalyzed to facilitate comparisons between studies and to delineate the salient findings. For example, in series where the proportion of organic cases is high, the consistently high rate of agreement (80%-90%) on these conditions tends to mask the relatively low rate of concordance for the "functional" psychoses, psychoneuroses, and personality disorders. Where feasible, therefore, the overall rates of agreement will be presented with the organic cases excluded. Only those articles are summarized which bear directly on the question of the reliability of diagnoses and which were adequately enough designed to clarify this question.

Masserman and Carmichael(13) followed 100 patients after they left a mental hospital. It was found in 40% of the cases that the diagnoses required "major revision" one year after discharge. This study has been quoted frequently as evidence of the unreliability of psychiatric diagnoses. However, since it is apparent from the authors' description that the changes in the diagnoses were justified by changes in the patients' clinical picture, this finding does not in itself discredit the original diagnostic classifications. However, it does raise the question of the temporal reliability of the nomenclature.

Ash(1) studied the diagnostic classification of 52 white male patients who were seen at a psychiatric clinic associated with a governmental agency. Three psychiatrists participated in this study and the conference method was used, with each psychiatrist asking whatever questions he wanted. The overall agreement between paired diagnosticians for the specific syndromes was 32% and for the major divisions (psychosis, neurosis, and character disorders) 64%. The limitations of this study are: the relatively small number of cases did not allow for comparative data on a wide range of

clinical syndromes; the conference method favored agreement through the inevitable communication of ideas; the nomenclature used in the study contained many vague entities, such as "primitive type," "shiftless, lazy, unethical type," and "reaction to inferiority"; and finally, the categories in the nomenclature were not mutually exclusive.

Mehlman(14) studied the frequency distribution of diagnoses of 4,036 patients at a state hospital. He found a statistically significant difference in the frequencies with which the various labels were used by the individual psychiatrists in categorizing the patients assigned to them. A similar study by Pasamanick, *et al.*(16), showed essentially the same results. Although these studies demonstrate that the psychiatrists had definite preferences in the selection of diagnostic categories, the use of an indirect method did not allow for comparisons of judgments of different psychiatrists seeing the same patient. While there is significance in the demonstration of variability among psychiatrists which is a function of individual diagnostic predilection, this finding does not indicate the degree of disagreement, which would be more relevant to an evaluation of the reliability.

Hunt, Wittson, and Hunt(11) examined the consistency of psychiatric diagnoses in a group of 794 naval enlisted men seen by the psychiatric unit at a naval precommissioning installation and transferred to a naval hospital for medical survey and separation from the service. The diagnoses at the precommissioning station were compared with those at the hospital. It was found that the overall agreement on specific diagnoses was 32%, while agreement on the broad categories (psychosis, psychoneurosis, and personality disorder) was 54%. Some drawbacks of this study are: first, the diagnoses at each installation were based on a study of the clinical record rather than a direct examination of each individual by the physician making the diagnosis; secondly, since the primary function of the diagnoses was to determine suitability or unsuitability for service, administrative considerations (as pointed out by the author) influenced the type of diagnosis rendered; thirdly, since there was a definite time lapse of an unspecified period

between the rendering of the two separate diagnoses, the acute conditions could have resolved during the interval between the diagnostic appraisals and thus could have contributed to a change in diagnosis.

Foulds(7) introduced a novel approach to the problem of assessing concordance between diagnosticians by devising a 6-point scale to indicate the degree of agreement in the diagnoses rendered on an individual case. The scale was based on the idea that pairs of diagnoses which were similar (for example, paranoid state and paranoid schizophrenia) should receive a higher rating than pairs of diagnoses that were totally dissimilar (for example, paranoid schizophrenia and hysteria). When concordance was measured according to this scale, it was found that the degree of agreement on diagnoses between 2 psychiatrists was statistically significant for the 18 patients in the series. However, as the author points out, this scale was lacking in experimental support for the attribution of similarity to the various diagnostic pairs and for the particular weights assigned in the scoring system.

Schmidt and Fonda(19) conducted a study of 426 patients in a state hospital. The initial diagnosis was made by 1 of a group of 8 psychiatric residents during the patient's first week in the hospital. The second diagnosis was made by 1 of a group of 3 staff psychiatrists during the patient's third week in the hospital. An analysis of their data, excluding the organic cases, shows an overall rate of agreement of 42% for the specific diagnostic categories. A special feature of this study is that the new (1952) APA nomenclature(20) was used.

Limitations of this study are: first, the comparisons were made between diagnosticians of very different backgrounds, training, and experience. The residents who made the initial diagnoses were from foreign countries, had only minimal psychiatric training, and presumably had varying degrees of difficulty with English. The staff psychiatrists, on the other hand, were board-certified and had considerable experience in psychiatry. Secondly, at the staff conferences where the official diagnoses were made, the staff psychiatrists had

access to considerably more material than had been available to the residents. This included additional information from such sources as the social history, the psychological and neurological examinations, and the notes on the patient's chart.

Wallinga(21) examined the diagnoses of 804 cases admitted to a navy hospital. He found that in 470 (58.5%) cases there was a change in the specific diagnosis in some stage of their illness. Of these 470 cases, 375 had a change from one major category to another major category (for example, from psychosis to neurosis). As in some of the other studies, the diagnostic judgments were not strictly comparable in that there was often a long period of time between the 2 diagnoses, and often there was considerable discrepancy in the training and experience of the various diagnosticians. Moreover, as in many of the other studies, the fact that the second diagnostician had access to the original diagnosis could have influenced his diagnostic appraisal.

Norris(15) reviewed the diagnoses of 6,263 patients who were diagnosed by psychiatrists during a brief stay at an observation unit and were then transferred to a mental institution where they received a second diagnosis by another psychiatrist a few weeks later. She compared the diagnoses at the two institutions and found overall concordance of approximately 60%. However, there was a very substantial representation of the organic psychoses, which had a high concordance (80%) as compared with the psychoneuroses and the character and behavior disorders, which had a concordance rate of approximately 54% and 43% respectively. Another problem in evaluating the results is that nosological categories of widely differing degrees of refinement and homogeneity were used. Moreover, the overall rate of agreement could have been influenced to an unknown extent by virtue of the fact that the psychiatrists in the receiving hospital knew of the diagnoses made in the observation unit.

COMMENT

The foregoing review of the studies on the reliability of diagnosis indicates a number of methodological problems which make it difficult to draw any definite con-

clusions about the reliability of the present nomenclature. Among the factors that could have distorted the degree of agreement are the comparisons of diagnoses of clinicians of greatly varying degrees of training and experience ; use of poorly defined, overlapping categories ; the introduction of administrative and other extraneous considerations in classifying patients ; inequality in the quantity and quality of information available to the diagnosticians ; the long time intervals between diagnostic appraisals ; and lack of provision for independent judgments by the paired diagnosticians.

Another problem in these studies has been the inconsistent application of the hierarchical organization of the nosological categories which is implicit in the traditional "class model" of classification (for further elaboration, see section on recommendations below). As a result, categories which are substantially different in terms of inclusiveness, homogeneity, and refinement, are treated as though they are on the same level of abstraction. For example, in 2 studies the gross, heterogeneous category of neurosis was treated on the same level as the relatively specific and refined category of manic-depressive disorder.

In view of the widely varying designs used in these studies, any comparison of the results among the studies would be forced and difficult to interpret. However, in order to obtain some general idea of the possible range of agreement, the data presented by the authors were reanalyzed (when such a procedure was feasible) to facilitate comparison. In order to make the samples more consistent with each other, it was necessary, for example, to exclude the "organic" cases from the computations. It was found that, for the studies that were analyzed in this way, the agreement on specific diagnoses was as follows : Schmidt and Fonda, 42% (19) ; Wallinga, 41%(21) ; Ash, 32%(1) ; and Hunt, Wittson, and Hunt, 32%(11).

If these results may be accepted as representative of the degree of agreement between diagnosticians, the question naturally arises : what significance does this have in terms of the practical value of the current system of diagnosis ? The fact that, in at least one study(19), the level of agreement was found to be statistically significant does

not, *ipso facto*, establish the usefulness of the system since the percentage agreement may be low and still be statistically significant. It is evident that any appraisal of the value of the system of diagnosis needs to take into account the specific purposes for which the system is to be used.

It would seem that for research purposes a system of classification using the refined categories, which had an interjudge agreement rate of no better than 42%, would be considered inadequate. On the other hand, if one is interested only in the broader categories (such as neurosis and psychosis), where the degree of agreement is substantially higher, then the present system is more acceptable.

When the utility of the present system for the practical purposes of patient care is considered, it might be regarded as self-evident that the clinician would be greatly handicapped by the variability of diagnoses. However, the extent of this handicap is related to the degree to which the psychiatrist depends on the diagnostic label in actual clinical decision-making. It could be argued, for instance, that the psychiatrist is seldom bound exclusively by the actual diagnosis (except, perhaps, in "organic cases") but bases his treatment recommendations on such characteristics as the severity or chronicity of the illness, the degree of impairment of reality testing and social effectiveness, the capacity for insight, and the motivation for help. Under such circumstances, he might simply regard the clinical diagnosis as an additional bit of information (unreliable though it may be) which may support the therapeutic decisions made on the basis of the other factors. In any event, further research on the question of how the psychiatrist makes his therapeutic decisions is certainly warranted.

The high degree of diagnostic variability among clinicians is, incidentally, not a unique property of the specialty of psychiatry. In other branches of medicine, when the physician is forced to rely solely on his own examination of the patient and a large degree of inference is necessary, a noteworthy tendency towards inconsistency may arise. Systematic studies have revealed a low degree of interclinician agreement on the presence of physical signs of emphy-

sema(6), the assessment of the nutritional status of children(5), the evaluation of pathology of tonsils(2), and the eliciting of specific pulmonary symptoms in taking medical histories(3). Furthermore, it has been shown that pairs of radiologists interpreting the same x-rays showed a surprisingly high degree of disagreement(8).

RECOMMENDATIONS FOR FURTHER STUDIES

In view of the already described limitations of the studies of the reliability of psychiatric diagnoses, it is clear that further studies should be designed to solve these methodological problems. It is suggested that future systematic investigations of the reliability of diagnoses follow certain guidelines so that more decisive conclusions can be drawn regarding the reliability of psychiatric diagnoses. The most valuable information would be derived if these studies were conducted within a methodological framework which would allow for the systematic variation (as well as the control) of the important variables.

1. The most recent version of the standard nomenclature(20), which was formulated to improve the weaknesses in older editions and is widely used at present, should be employed. The participating psychiatrists should initially attempt to clarify the obscurities in the nomenclature and reach a consensus on the criteria to be employed. It is important that cognizance be taken of the fundamental hierarchical structure of the standard nomenclature. The class model on which it is based is analogous to the Linnaean model of classification, comprised of class, orders, families, *etc.* The schema used in the standard nomenclature similarly consists of broad generic categories labeled "disorders," which are subdivided into more homogeneous categories, which are (inconsistently) labeled "syndromes," "reactions," or "disturbances." In some cases, these are further subdivided into more discrete "reactions" or "types." It is obvious that a rational application of the nomenclature should require the selection and comparison of diagnoses of the same level of abstraction. In addition, by varying the level at which the diagnosticians select the categories, it would be possible to determine the relative reliability of gross and

refined categories.

2. The psychiatrists responsible for making the diagnoses should have sufficient background and ability to enable them to make a skillful application of the nosology. Furthermore, the amount of training and experience should be roughly equivalent for each of the participants. To determine the effects of training and experience on agreement, experiments using diagnosticians at successive levels of training and experience should be performed.

3. The conditions for making the psychiatric observations should be kept uniform. These conditions include such factors as the physical setting of the interviews, the amount of time allotted, and the amount of ancillary information (such as social history, psychological test reports, nurses' observations). To determine the effects on agreement when sources outside the psychiatric interview are used, the psychiatrist should render a diagnosis first, without the benefit of the ancillary information; and then, after consulting this information, confirm or revise his initial diagnosis.

4. The time interval between successive interviews of a patient present certain problems. On the one hand, a joint interview by the 2 psychiatrists, or consecutive interviews with a minimal time interval, would appear to be desirable to minimize the variability in diagnoses resulting from gross changes in the symptomatology of the patient. On the other hand, it would seem that an important test of the reliability of a nomenclature of diseases is the degree to which the diagnostic labels remain applicable despite changes in the patient's clinical condition. Furthermore, it could be expected that, if a patient is interviewed simultaneously by 2 psychiatrists, there is apt to be a spurious inflation of agreement through the communication of ideas (see Ash's study)(1). This dilemma may be resolved by setting up a series of experiments to determine the degree of agreement under the following conditions: a joint interview by 2 psychiatrists, but with independent selection of the diagnosis; independent interviews with a time interval between interviews of only a few minutes; independent interviews with a time interval of a specified number of days or weeks. Such studies

could yield important information regarding the relative vulnerability of the diagnoses to changes over time, as well as the degree of interpsychiatrist reliability.

5. In view of the possible influence of administrative considerations on the selection of a diagnostic label(9,11), the investigation should be conducted independently of the routine evaluations and clinical decision-making of the institution.

In addition to the specific suggestions listed above in regard to studies of the reliability of psychiatric diagnoses, it is apparent that a good deal of basic research is required to elucidate just how clinicians go about obtaining data and making judgments, and how they differ from each other in this regard. Such studies will have to scrutinize such elements as interviewing techniques, the degree of inference from observations, and the logical processes utilized by the clinician in translating the data into a clinical diagnosis.

A number of studies have been reported which approach these problems; *e.g.*, Rosenzweig, *et al.*(18), in their study of the reliability of the mental status examination, observed that, while the psychiatrists in their study showed a high level agreement when the same clinical data were presented to them, they tended to vary considerably in interviewing techniques. Raines and Rohrer(17) observed that clinicians tended to arrive at different diagnostic judgments on the basis of their own personality patterns. Pasamanick, *et al.*(16), demonstrated definite diagnostic preferences (or biases) which they attributed to differences in the schools of thought represented by the participating psychiatrists. In a recent study of the reasons for diagnostic disagreements, Ward, *et al.*(22), concluded that 37% of the cases of disagreement could be attributed to inconsistencies or errors in the interviewing techniques, while 58% were related to inadequacies of the nomenclature.

Another promising avenue of research lies in experimenting with different models of classification. The traditional class model, which was described above, implies that a given patient has one and only one psychiatric syndrome. The designation of a specific syndrome automatically excludes all others for that patient. The polydimensional

model(12), on the other hand, does not require that the individual syndromes be mutually exclusive, but assumes that more than one syndrome (*e.g.*, anxiety state, depressive state, paranoid state) may be present in a patient at the same time. This model has been used by a number of techniques which retain the classical nosological categories but treat them as co-existent dimensions of personality(10). These techniques are reported to show a much higher degree of interrater reliability than the conventional method of diagnosis, and in addition provide for quantification of the individual dimensions.

It may be expected that further research in the area of the diagnosis will contribute in a substantial way to the goal of specifying the determinants of mental illness and ultimately to developing more effective methods of treatment.

SUMMARY

Pertinent systematic studies of the reliability of psychiatric diagnosis were critically examined. It was pointed out that each of these studies presented certain methodological problems which made their findings inconclusive. An experimental design was presented to meet these problems and thus yield a more informative index of reliability. By systematically varying the important variables, such as the level of experience of the psychiatrists, the time interval between interviews, the use of ancillary information, and the degree of refinement of the nosological categories, it will be possible to determine their effects on reliability.

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DEPRESSIVE BREAKDOWN IN WOMEN OF THE WEST HIGHLANDS

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In recent years study of the affective disorders has tended to receive less attention than schizophrenia. The work of Kallinan and Schulz on the genetics of the illness is of enormous importance, as is Merrell's work on the inheritance of the disease; but again two of these writers have also made important contributions to the etiology of schizophrenia.

Review of the current literature tended to confirm this contention. In the *Journal of Mental Science* we found, for example, that in the years 1957 to 1959 there were 79 articles on schizophrenia and only 21 on affective disorders. Review of the American journals of psychiatry tended to confirm this finding. We also found that comparatively little work had been done on the incidence of depression in distinctive groups, despite an impressive survey by Stenstedt in Sweden who used a geographical basis for his work and whose results are contrasted with our own below.

In the following survey we set out originally to examine the generally held concept that there is a higher incidence of affective disorder in the population of the West of Scotland than in other comparable areas in the British Isles. We also attempted to analyse the factors responsible. The planning of the survey immediately presented difficulties. In the first place we had to decide whether to use only patients admitted to the hospital as statistical material or whether to include outpatients. We decided to use only inpatients. Secondly we had to decide whether to use a nominological, an inheritance, or a geographical basis. Geography seemed to offer more accuracy on the grounds that a nominological basis would be hopelessly confusing (many Irish names begin with "Mac" and many "Macs" disappeared after the '45!), and that hereditary factors would be too difficult to trace. We felt also that a geographical selection

would have more statistical validity if it were strictly applied and we have therefore confined our selection only to patients domiciled in the counties of Argyll and Bute.

A third difficulty was that the material obtained was too bulky to handle in one reasonably concise paper. We therefore had to confine the survey strictly to the depressive disorders of youth and middle-age in females. Excluded are depressions in females over 65 years, the affective disorders of the puerperium and anxiety states with incidental depressive features. We hope to publish a survey of the material concerning males and other depressive groups at a later date.

The groups considered are therefore: 1. Involutional melancholia; 2. Manic-depressive psychosis of depressive type; and 3. Reactive or exogenous depression.

In making this selection we applied certain criteria. We are aware that in the light of Tait, Harper, and McLatchie's paper (9) some criticism may be levelled at these criteria; nevertheless we felt that they had clinical validity. Criteria used were:

Group 1. The melancholias.

(a) The disorder had occurred for the first time in the involutional period 45 to 65 years.

(b) Psychomotor retardation was not prominent, but agitation was part of the picture.

(c) The previous personality was rigid and overconscientious.

Group 2. The manic-depressive psychoses.

(a) The disorder should occur for the first time at any age.

(b) It was characterised by psychomotor retardation.

(c) There was a history of a cyclothymic personality.

Group 3. The reactive depressions.

(a) It could occur at any age.

(b) There was incontrovertible evidence of response to environmental conditions.

We proceeded with our abstracts in terms of individuals, not admissions. The

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average admission rate of depressives is therefore the patient/admission rate, *i.e.*, 1 individual admitted 8 times in 10 years is still 1 admission. The survey was divided into two 5-year groups, because all the patients in the second 5-year group were known personally to both writers; some in the first 5-year group were not. We would emphasise that a patient numbered in the first 5-year group, readmitted during the second 5 years, was *not* included in the latter group.

Maintaining our exclusions, we found that of 585 female individual admissions from the counties of Argyll and Bute between January 1, 1949 and December 31, 1958, there were 119 depressives (20.34%). We found that of 264 individuals admitted during the first 5 years (1949-1953), 55 were depressions (20.83%). In the second 5-year period, from 321 individuals admitted, 64 were depressives (19.93%)—a drop of approximately 1%.

The relative frequency was as follows:

1949-53	
	NO. OF PATIENTS
Involuntional melancholia	21
Manic-depressive psychoses	15
Reactive depression	19
	—
	55
1954-59	
	NO. OF PATIENTS
Involuntional melancholia	29
Manic-depressive psychoses	15
Reactive depression	20
	—
	64

We would like to quote in comparison from the limited references available to us, the following figures:

1. Merrells has stated that the number of "M.D.P." admissions dropped in 1951 from 18% to 10%. These figures are American and we do not know whether the whole affective group is included, but from the context we imagine it to be. If then we contrast with his figures our own statistics for the 10-year period we find that any of our 3 sub-classes approach the level of his total figures (*i.e.*, the extract percentage for our manic-depressive sub-group alone is 5.12%).

2. Again Burkhart has reported 2.6% ad-

mission rate in Schleswig-Holstein(2).

3. Bellnapp and Jaco(1) quote an aggregate figure of 12.8% in the city of Austin, Texas, for affective admissions, and contrast this with 10.4% for Chicago (1923-34), and 8% for U. S. A., 1949. They speak of Austin as having "a significantly higher rate."

4. More recently Malzberg(4) has reported that there has been a remarkable downward trend in the U. S. A. of patient admissions to hospital suffering from the manic-depressive psychoses, *e.g.*, in the New York State Hospital the figures are:

1930	12.8%
1940	6.1%
1950	2.3%

These figures are considerably lower than ours. If we can assume that a strict comparison is possible, we would have to add to our figures the total admissions of manics and hypomanics which would further increase our percentage. Certain of these writers do not make it clear whether they are considering the whole affective group or simply manic-depressive psychoses, but if it is the former, their figures contrast even more strikingly with our own.

RURAL/URBAN RATIO

The area surveyed is a rural one; for our purposes we have considered as urban any town with a population of over 5,000, these being Oban, Campbeltown, Dunoon and Rothesay. The total population in the counties of Argyll and Bute is 75,000 people, of which 44,000 live in rural areas and 31,000 in the towns. Admission proportions are, as set out below, per 1,000 of the population.

	1949-53		1954-58	
Urban	27	0.87/1000	41	1.3/1000
Rural	28	0.63/1000	23	0.5/1000

We found that the urban rate is consistently higher than the rural and if results obtained from our "towns" can in any way be compared with, for example, Austin, Texas (pop. 129,000), our findings would seem to parallel the differential indicated in some American publications. Further analysis of our figures showed that the increase in the urban rate for the second 5-year period was accounted for almost entire-

ly by an increase in the reactive group, the proportion for our first 2 sub-classes (above) remaining much the same. We thought this increase might correlate with known increase in unemployment in the towns at the time, increase in domestic responsibility caused by the end of rationing, and perhaps by a decrease in the numbers of summer visitors. At least 2 of the towns surveyed depend very largely on the "summer holiday" trade, a factor which would not so much affect the rural population.

RELIGIOUS INCIDENCE

From several sources we tried to find the sect distribution in our area. In this we had little success. We had assumed rather arbitrarily that there would be a high correlation between depressive breakdown (one of the writers thought involuntional melancholia) and the Free Church—to our idea, a following of more rigid and inhibitive theology than others in the area considered. Out of our total 119 admissions, 5 were of the Free Church and only 2 of the Free Presbyterian Church; 83 were Church of Scotland, and rather surprisingly to us there were 18 Roman Catholics, the highest incidence of Roman Catholics being in the reactive depression group.

We repeat, we do not have access to accurate figures, but it seems to us that the Free Church following, in the general population of the area considered, is certainly more than our incidence rate of 6%. This is much less than we had expected. Contrastingly, we found that the Roman Catholic proportion in our total group accounted for 16% of the admissions. We would emphasise that there is no indigenous pre-Reformation R.C. group in the counties of Argyll and Bute as there is for example on the island of Barra.

To quote Bellnapp and Jaco again, these writers in their survey of Austin reported that there was a heightened breakdown among Baptist, Methodist and Lutheran sects, and lower rates in the Roman Catholic and Episcopalian following. To our mind, we would not have been surprised at a higher incidence of schizophrenia among Roman Catholics, but we were surprised at finding this indication in an affective group,

particularly in the reactive or exogenous sub-group.

MARITAL STATE

We next considered the marital factor. For comparison, we obtained the figures for the general population in Argyll and Bute from New Register House. The Registrar's population figures for females over 16 (*i.e.*, of marriageable age in Scotland) and our own are compared below.

GENERAL POPULATION (1951 CENSUS)		GROUP SURVEYED
Married :	50.3%	49.6%
Single :	34.9%	40.3%
Widows :	14.0%	8.4%
Divorced/Separated :	.8%	1.7%

The direct comparison between these sets of figures is not statistically valid since our group is selected. But it is valid to make a cross-comparison between the sub-groups—here our percentage in the married group is very close (.7%) to the proportion in the population. Our "single" group, however, is 5.4% higher than our figure for widows, and 5.6% lower than those for the general population. We could only conjecture as to the psycho-pathology reflected in these results. We were not surprised that the depressive rate should be higher for single women, but we would have expected that the rate for widows would also be higher ! These figures in general, however, agree with Rose and Stubs' study (6).

AGE INCIDENCE

Our largest group comprised the 56-65 range. This average is that at first admission. Slater has considered this factor, and it has also been discussed by Schulz.

We found that in both 5-year groups the average age on patient admission was approximately 53 for involuntional melancholia, from 46 to 52 for the manic-depressive psychoses, and from 43 to 46 for the reactive depressions. According to the Registrar General's report for England and Wales 1952-53 the admission rates for affective reactions reached their peak in the 55-64 age group, but for women aged 45 to 54 the rates were not far short of the maximum rate confirmed in our sample. There were in all 41 admissions in the 56-65

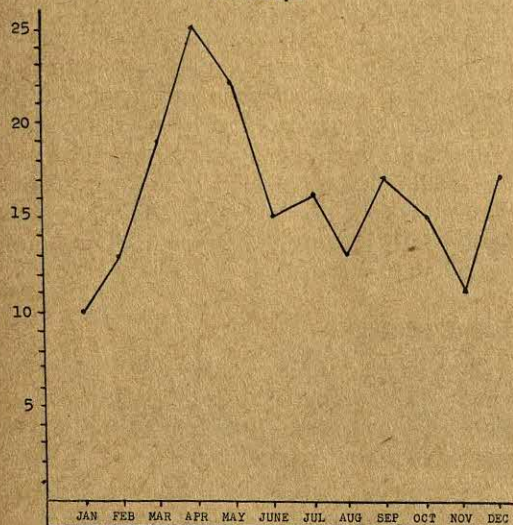
group, and 40 admissions in the 46 to 55 group.

Our study does not include the manias and is thus not strictly comparable, but neither does it include depression occurring in ages over 65. Stenstedt's figures for a geographical area of Sweden contrast sharply with our own. In his graph he gives the highest incidence in women as occurring at 38 years. Again our results are quite different and our clinical impression is that inclusion of the manias and hypomanias would not much reduce this figure.

SEASONAL INCIDENCE

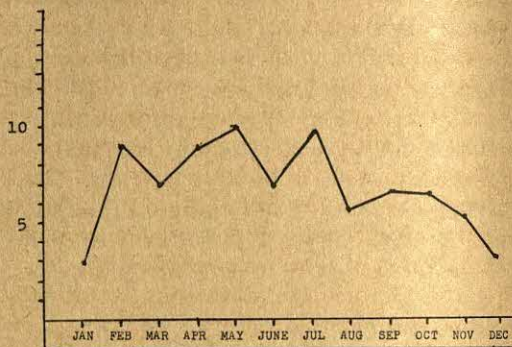
Finally we analysed the seasonal incidence of onset in the group, taking the time of onset as that of admission to hospital. Our readings would argue that the onset of symptoms is earlier than those shown in the graphs (below).

GRAPH 1
Seasonal Incidence
All Groups

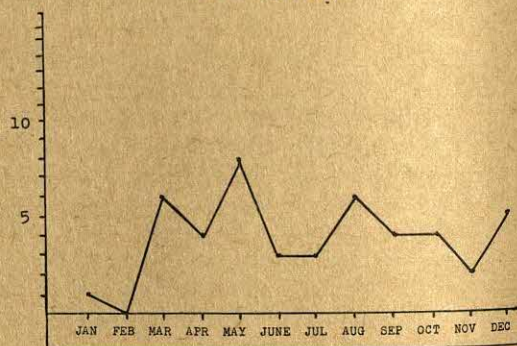


In the admission graphs the figures are for admissions and not individuals. The number of admissions reviewed is 193 (119 individuals). The composite graph indicates an upward swing for the whole depressive group, but the graphs for the individual groups, involutional melancholia, manic-depressive psychoses (depression) and reactive depression respectively, show that this swing is accounted for largely by in-

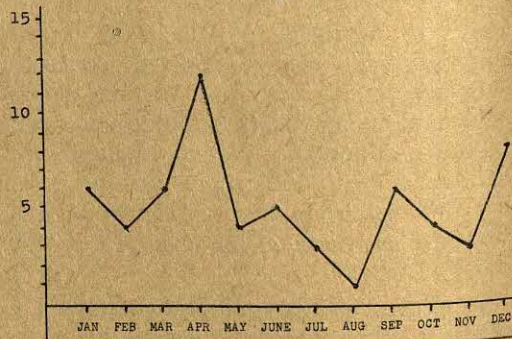
GRAPH 2
Seasonal Incidence
Involutional Melancholia



GRAPH 3
Seasonal Incidence
M.D.P. Depression



GRAPH 4
Seasonal Incidence
Reactive Depression



creases in the third group, to a lesser extent by the first and little by the second.

DISCUSSION

In this paper we have tried to throw some light on the hypothesis that there is a higher incidence of female depressive breakdown

in the ethnic group which comprises the population of the West Highlands. In this project we were unable to achieve scientific accuracy because (i) by reason of numbers we were able to study only the sub-groups delineated above; (ii) we were handicapped by the variation in nomenclature and definition in current use and were forced to use very rigid criteria in our selection; (iii) our standards for the urban/rural ratio is open to criticism in view of the small size of our urban communities.

In spite of these difficulties, we drew certain conclusions :

1. There is a relatively and contrastingly high incidence of depressive illness in the geographical group studied.

2. The urban rate is consistently higher than the rural rate, and environmental factors are important in this difference.

3. There is no correlation between the incidence of depressive illness and allegiance to an inhibitive religious sect.

4. In the depressive group there is a significant increase in single women and a lower incidence in widows. In the married group there was neither increase nor decrease.

5. Average age for first attacks : involu-

tional melancholia tends to occur at 53, manic-depressive psychoses about 49, and reactive depression about 45.

6. There is a marked rise in the admission rate of the reactive depressions in the spring, but little significant seasonal rise in the other 2 groups.

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PATHOGENIC RELATIONSHIPS IN SCHIZOPHRENIA¹

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This is a study of prehospitalization behavior in the United States Army of soldiers hospitalized at Walter Reed Army Hospital with the diagnosis of schizophrenia.³ Interviews with the officers and enlisted men who had known and worked with the patients indicate that for these patients the development of overtly psychotic symptoms is the outcome of pathogenic relationships with significant other persons in their immediate environment.

The writers, a psychiatrist and an anthropologist, one an officer and the other an enlisted man at the time of the study, interviewed the superiors and associates of 13 patients. Officers were seen in individual sessions, enlisted men and civilians in groups usually averaging 5 persons. Thirty officers, 150 enlisted men and 5 civilians were interviewed in the course of 30 group and 41 individual sessions. These interviews were recorded on tape and later transcribed. Informants were selected with the purpose of including the patient's closest associates. Since the data were collected after the patients' hospitalization, they are, of course, influenced by this fact. In the group interviews information from one informant often stimulated recall on the part of another. Thus, each specific incident previous to hospitalization was usually described by several informants. Even resistant informants, who initially refused to participate, became

involved in the group interaction and ended up by actively contributing to the discussions.

The 13 patients, all enlisted personnel, came from practically every branch of the Army: 3 from the Signal Corps, 2 from the Paratroops, and 1 each from the Army Medical Corps, the Corps of Engineers, the Military Police, the Army Security Agency, the Quartermaster Corps, Armor, Artillery and the Finance Corps. They had been located in 8 different posts in the eastern United States and 2 in France. They ranged from 21 to 30 years of age; length of service in the Army was from 14 months to 12 years. Two were sergeants; 3 specialists; 2 corporals; 3 privates first class and 3 privates. The patients' past histories, obtained by a psychiatric social worker from a visit to their homes and from the patients themselves on the ward, indicated that 7 had had definite episodes of overt psychosis and 4 had had episodes which may have been overt psychosis. In only 2 cases was no history of previous overt psychosis obtained.

It seems reasonable to conclude that on entering the army these patients were individuals with chronic emotional problems who had previously decompensated to psychotic behavior and might do so again. What had been the level of their work performance? And why had the overt psychosis occurred when it did?

We isolated from the interrelationship of the patient and his environment certain dyadic bonds. The bond refers to the relationship between the patient and a significant other person (S.O.).⁴ Our data allow us to infer the presence of such relationships in various ways. The patient himself in our interview prior to the field trip may insist that we see a particular person; patients

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³ The milieu therapy ward on which these patients were treated is described in: *The Symptom as Communication in Schizophrenia*, edited by Kenneth L. Artiss. (New York: Grune & Stratton, 1959.)

⁴ The term "significant other" is derived from George Herbert Mead, who has used the concepts "generalized other" and "particular other"; and from Harry Stack Sullivan who has spoken of the "significant person" in the patient's life other than the mother.

may have paranoid delusions centered on an individual; third parties may give us details of transactions between the two; and the individual himself may both directly and indirectly, through being very cooperative or highly resistant, suggest the extent of his participation with the patient. In most cases information from more than one of these sources was available. Purely situational factors which make it likely that a person in the patient's environment will be an S.O. include closeness in the social organization, similarity of background, nearness in living quarters and shared leisure time interests. Family members of the patient will naturally be S.O.'s in the course of events unless the patient has only infrequent contact with them. Situational closeness is not the only determinant of an S.O. relationship. Some of the unconscious factors on the part of the S.O. will be discussed below.

We found it useful to distinguish three types of patient-significant other relationships: 1. Quasitherapeutic; 2. Pseudotherapeutic; and 3. Contratherapeutic.

The Quasitherapeutic Relationship. When we interviewed the men who had what we have called "quasitherapeutic" relationships with the patient we found them to be frank and open. They made no claims to be "leaders of men" or that they possessed the formula for "handling people" as was often the case with those who had pseudo- or contratherapeutic relationships. The personality traits often attributed to "leadership" such as intelligence, dependability, kindness, poise, and decisiveness do not differentiate the quasitherapeutic S.O. from other types. In the recital of events given by the quasitherapeutic S.O. and by other men in the unit, we noted that the quasitherapeutic S.O. conveyed to the patient a feeling of acceptance as a person and an expectation of behavior in accordance with group norms. In other words, he both provided support and set limits. Quasitherapeutic S.O.'s seem to act in terms of the patient's potentialities, not merely in the terms of his immediate performance. Since this interaction is often subtle, it is more difficult to illustrate clearly than the pseudo- or contra-therapeutic relationships.

Pfc. Frost⁵ had been regarded as the worst man in Company A. His work was inadequate, his bed poorly made, his shoes unshined, and he was often reprimanded for his slouching gait. But when he was transferred to Company B a marked change occurred. His work improved, his appearance became more soldierly and he was even seen to smile. We asked the men who had known Pfc. Frost what had made this difference. They felt it had occurred because of his new platoon sergeant, who got along well with Frost. The only description of this relationship the informants were able to give was that this sergeant "just got a knack of handling men." We pressed for an example of this ability. "Well," one man answered, "If someone asks me to do something, say to close the door, I do it. I don't mind doing it, but I don't enjoy doing it. But if that sergeant asked me to do it, I'd enjoy doing it." "What would he say?" "Oh, he'd probably say, 'Hey Shithead, close the door over there!'" In the army mild profanity is often used as a term of approval. "Close the door" is, of course, a request for something to be done. Here, the sergeant has both given support and expected performance.

Another patient had asked his immediate supervisor, a lieutenant, for the day off because he was not feeling well. The lieutenant discussed this with him, recognizing that he was not feeling well but pointing out the work that had to be done. The lieutenant gave him the morning off but required him to come back in the afternoon, which the patient did. By expecting performance, the lieutenant, perhaps, helped to produce it.

Mrs. C., Pvt. Smith's civilian supervisor, recognized that he had problems. Although she was sympathetic toward him, she also insisted on his doing an adequate job. "His attitude was negative to begin with. I had to talk to him many a time. He wouldn't even acknowledge his errors . . . I liked (Smith), I took him aside several times . . . but he couldn't say why he was in these moods when he got into them . . ." Throughout the time he had this relationship with Mrs. C. his performance was not outstanding, but he was productive. At regular intervals he rotated for several days to K.P. duty. Mrs. C. had noted that whenever he returned to his job from K.P. duty he seemed to need more attention and support. After six months Mrs. C. decided that his work did not justify the supervision she felt he required and she had him trans-

⁵ Pseudonyms are used for patients, initials for others.

ferred. From this point on his work deteriorated.

When a patient had a quasitherapeutic bond with a significant other, his behavior, appearance and work performance were usually adequate and sometimes even outstanding.

The Pseudotherapeutic Relationship. In meeting the individuals who established "pseudotherapeutic" relationships with the patient, we were impressed with their cordiality, the warmth and apparent understanding they expressed toward the patient, and the positive feelings other subordinates had toward them. Initially, therefore, we were surprised to discover how poorly the patients had done when this type of relationship was present. In the pseudotherapeutic relationship the S.O. seemed to obtain gratification from having the patient dependent upon him. Characteristically he failed to set any limits on the patient's behavior. Since the patient, apparently insatiable for "understanding," made greater and greater demands, the situation eventually became absurd.

Lt. H., who was in charge of the communications section at a small army post in France, was a college graduate. Pfc. Andrews, who eventually developed overtly psychotic behavior, was the only man in his section who had gone to college. Pfc. Andrews made a point of using big words and was rarely seen without a thick book under his arm. This behavior appears to have struck some unconscious cords in Lt. H., and a pseudotherapeutic relationship was established between them. Another man working in the same office said, "Lt. H. took up more time with (Andrews) than he's took up with any three guys that come into this outfit. And not in a way that he was trying to make (Andrews) do anything." But this was not enough; the patient wanted even more support. The same informant reported, "(Andrews) mentioned the fact that he needed motherly attention and affection, and Lt. H. told him that he was trying to give him fatherly attention and affection . . . And (Andrews) seemed to think that he didn't need fatherly attention. He needed motherly affection." As the lieutenant gave more and more support, Andrews' level of performance progressively dropped.

The S.O. in a pseudotherapeutic bond is

reluctant to acknowledge any difficulties with the patient, and may even ignore overtly psychotic symptoms.

Pvt. Smith had been transferred from a pseudotherapeutic sergeant to a new situation in which he had a contratherapeutic relationship. Within a short time he had developed a delusion that he had been discharged from the army. He went to the office of his pseudotherapeutic S.O. dressed in civilian clothes to say goodbye. The battalion commander interrogated him and then told the pseudotherapeutic sergeant to take Pvt. Smith to the hospital. The sergeant describes this, "The battalion commander wanted him taken over to the hospital . . . I got in my car and started over that way and he said, 'Sergeant,' he said, 'I don't want to go to the hospital.' I said, 'Well, I don't think you *should*,' and so I pulled the car up in the parking lot and we sit there and talked and I told him, 'Now,' I said, 'if there is anything wrong with you, you should go . . . if you think there's anything wrong. Personally I don't think it is, I think it's all figmentation or something in the mind.' So we come back to the company. He went back to work . . ." Later in the day the battalion commander noted that Pvt. Smith was still around and was still delusional; so he ordered two of his officers to take the patient to the hospital.

To recognize that the patient has a psychiatric illness appears to be so threatening to the pseudotherapeutic S.O. that he is unable to do so.

When a pseudotherapeutic relationship exists, the patient sometimes uses failure as a device to get even more support and attention. In several of the cases we have found a pattern of behavior that we have called the "ingenious failure." This is a situation in which the patient has expended much more energy and ingenuity in achieving failure than would have been necessary for him to use in succeeding.

Pfc. Andrews had been trained as a photographer and was given that job. His first trip out he photographed the wrong thing; on the second he left the film out of the camera; the third time he corrected his previous errors but he sent the exposed film to be developed in a white envelope and it was ruined. Since he had been a commercial artist, he was assigned to make a sign. Although he spent three weeks on it and invented his own style of lettering,

it was not good enough to be used. He was then placed on the switchboard, but he insisted on speaking English to the French and on speaking French to the Americans. Finally he was put on K.P. where he produced total exasperation. He was told to mop under a coffee urn. Several hours later he was found still mopping—somewhere he had found a mop with only three strands! From then on his only assignment was to sit by the phone and answer it.

But even answering the phone can be an "ingenious failure." Spec. Ryan was doing inadequately, so he was given the relatively simple task of answering the phone in the Provost Marshal's office. At first he mispronounced "Provost." Corrected in this he took such care in saying it that he failed to hear what the man on the other end of the line was saying. When this was corrected, he began simply to forget what the message was. It was suggested that he write down the conversation. "He answered the phone again and I noticed he was writing on a pad and after the conversation I asked him what went on and again he didn't know—so I checked his notebook and there was just words wrote on top of each other all in a very small area to where . . . he couldn't even read them himself."

Both of these cases of ingenious failure occurred when a pseudotherapeutic bond existed with a superior and the patient could be sure that failure would be met with "sympathetic understanding." In the pseudotherapeutic relationship the patient's work performance slowly but progressively deteriorated.

The Contratherapeutic Relationship. A "contratherapeutic" relationship was characterized by rigid expectations of behavior without any approval on the part of the significant other. In other words, consistent limit setting with no support.

Initially we expected that most of the rough, tough-voiced, "old-army" sergeants would fall into this category. However, many give a great deal of support under the cover of a rough exterior.

Sgt. J. was characterized by the officers of Pvt. Evert's company as the prototype of the old line sergeant. He also used this blunt approach, however, for checking on the patient's finances and calling to task those who had borrowed money from the patient and did not pay it back. He had a quasitherapeutic relationship with Pvt. Evert.

The Adjutant of the Battle Group established a contratherapeutic relationship with Sgt. Downs, a paratrooper, after he was transferred to a Motor Battery. Sgt. Downs had given some shrewd advice to an enlisted man who was facing a court martial and the Adjutant angrily regarded him as a "Stockade lawyer." The Adjutant objected to Sgt. Downs spending time away from training as troop information sergeant, required that he obtain permission every time he left the company area, and ordered the immediate enforcement of a regulation about permission for working outside of the post when he found out that Sgt. Downs held such a job. Sgt. Downs made several requests for transfer, resigned from "jump status" (which in the paratroops usually results in immediate transfer but in this case blocked by the Adjutant), attempted suicide and finally referred himself for psychiatric care. Like other contratherapeutic S.O.'s the Adjutant felt that the patient had fooled the doctors into thinking he was ill in order to get out of the immediate situation.

Another patient was hospitalized shortly after working in the same office with Sgt. L. who told us: "Yes, sir . . . in my experience . . . with personnel of his character, I wouldn't take him across the street . . . And I think, my own way of looking at it, if he had more strict discipline instead of so much babying which he got, throughout the time I seen him, he was nothing but mollycoddled and handled with kid gloves. If he got a good kick where it would have done the most good, he probably would have come out of it. Now, I may be speaking like an old soldier . . ." Sgt. L. asked the patient to make some signs for his letter-boxes: three of them "In," three "Hold," and three "Out." "Hah! I got all nine of them 'Out.' Now, I ask him why? And he said, 'Well, I don't know.' Well, in my rough manner, I told him to get his head back there and go to work and do it right. And when he seen that he wasn't going to fool me, or at least that is my idea I got, then he came back with the job done." He did get out from the relationship a week after this incident by becoming overtly delusional.

When patients had a contratherapeutic relationship with their supervisors they usually made frantic efforts to be transferred. If these failed, they often went AWOL. If neither of these techniques resulted in removal from the relationship, the patient developed overtly psychotic symptoms.

The Significant Other and the Total Environment. Until now we have treated the relationship between the patient and his S.O. as if they were independent entities. We must also consider the interplay between the patient, S.O., and less important individuals in the environment.

When a quasitherapeutic relationship held, this was often the result of two or more S.O.'s acting together. Master Sergeant D., the Major K. took turns in setting limits on Cpl. Green's habit of coming in late, and they both gave him intermittent support. Two Master Sergeants in another case, one as the chief of his section and the other as First Sergeant, similarly complemented each other.

Objects were routinely used by the patient in attempts to gain attention, or to set up barriers, or both. Three of the patients shared an interest in photography with their peers. Two liked to turn their radios up loud and insisted on playing music others were less enthusiastic about; four other patients were often seen in the company of thick, abstruse books.

When an officer had a pseudotherapeutic bond with a patient, the sergeants between them modified their behavior toward an approximation of such a relationship. The company clerk in the Smith case, for example, modeled his actions after the First Sergeant. Pfc. Andrew's sergeants did not set limits on his behavior once they saw the relationship between him and Lt. H.

Transfer of the patient to a new group results in the loss of relationships he had previously established. Unless a new quasitherapeutic relationship is established with a single S.O. or with a combination of several S.O.'s his work performance declines. If the new relationship is pseudotherapeutic this decline is gradual; if it is contratherapeutic the decline is abrupt with the patient making various efforts to escape from the situation before using psychotic techniques.

The factors that determine whether a relationship with a particular S.O. is quasitherapeutic, pseudotherapeutic or contratherapeutic appear to be largely unconscious. The pseudotherapeutic S.O. may be unconsciously responding to his own dependency needs by seeking the vicarious

gratification of having someone dependent on him. The contratherapeutic S.O. may angrily reject the patient's demands for support because of denial and repression of these same factors in himself. Due to the limitations of this study there is insufficient information on the significant others to document these dynamics.

All of us have relationships with significant others. In the normal course of day to day events these significant others may perform surrogate ego functions for us. We have all experienced the stimulation of interaction with others, when astute questions have helped us think more clearly, when reassurance has helped us achieve difficult goals, or when insistent demands have helped us complete a job we would otherwise have left undone. A measure of leadership is the extent to which the leader succeeds in helping the individual to perceive, understand and handle the inner psychological needs and the outer reality situations with which he must cope. We all have had experience with quasitherapeutic, pseudotherapeutic, and contratherapeutic relationships and yet not all of us have developed psychotic symptoms. Why did these patients become overtly psychotic? These patients—whatever the predisposing factors may be—are individuals with chronic ego defects. Past history reveals that most of them have shown psychotic behavior some time in the past. In situations where a significant other provides surrogate ego functions they get along fairly well, and in some cases very well indeed. But when these ego functions are not performed, lacking adequate inner resources, they resort to overtly psychotic behavior.

SUMMARY

The authors interviewed 185 individuals at 11 army posts to gather data on performance level of 13 soldiers who developed overtly schizophrenic psychoses after at least one year of service in the army. The level of work performance and the development of overt psychotic symptoms depended on the type of relationship established with significant other persons. Three types of relationships were distinguished: quasitherapeutic, pseudotherapeutic, and contratherapeutic.

The *quasitherapeutic* relationship is one in which the significant other conveyed to the patient a feeling of acceptance as a person and an expectation of behavior in accordance with group norms, *i.e.*, he both provided support and set limits. In the *pseudotherapeutic* relationship the significant other, who seemed to obtain some gratification from having the patient dependent upon him, provided solely support. Rigid expectations of work performance without any emotional support was characteristic of the significant other in the *contratherapeutic* relationship.

Information from those who knew him indicated that the patient did adequate, sometimes even outstanding work in the quasitherapeutic relationship. This relationship was disrupted when either the patient or the significant other was transferred to another post. In the pseudotherapeutic relationship the patient continually made great-

er demands for support and his work performance progressively deteriorated. In the contratherapeutic relationship the patient rapidly developed overtly psychotic symptoms. Both the pseudotherapeutic and contratherapeutic relationships led to hospitalization.

It has been pointed out by a number of authors (Nathan Ackerman, Gregory Bateson, Don Jackson, Adelaide Johnson, Erich Lindemann, and Stanley Szurek) that deviant behavior of an individual may represent psychopathology of the family group. The data gathered in this study indicate that groups other than the family can be pathogenic. Psychiatric attention to the family of a patient has both contributed to understanding of the development of psychopathology and led to new therapeutic methods. Extending this interest to the patient's relationships in his work and social groups may produce similar results.

ATTEMPTED SUICIDE IN ADOLESCENTS¹

JACOB TUCKMAN, Ph.D., AND HELEN E. CONNON, M.S.²

Suicide is an important public health problem. In the United States, suicide is the sixth leading cause of death among those 15 to 24 years old, fifth among those 25 to 34 years old and 35 to 44 years old, and seventh for those in the 45 to 54 age group(4). Suicide ranks eleventh for the total population and eighth for the total white male population. While these statistics show that suicide affects individuals at all age levels, particularly those in their most productive years, relatively little attention has been given to this problem. This may be accounted for by the difficulties in approaching the problem objectively and by the complexity of the factors leading to suicide. Some of the variables are known, such as the relationship of suicide to age, sex, race, and marital status, but there are other more elusive factors with respect to the range and interplay of personal characteristics and the social environment.

The dynamics in suicide might be better understood if the individual's background were known, with emphasis upon his early development, the manner in which he was reared, the emotional climate in the home, the traumatic events to which he was exposed, his customary way of reacting to stress, *etc.* Reconstruction of an individual's life experiences is not an easy undertaking and is even more difficult for a suicide. Persons knowing most about him may be unreliable sources of information owing to defensiveness stemming from strong guilt feelings about his death. Presumably the amount of unreliability will vary with the closeness and relationship to the deceased. A more fruitful approach, therefore, would be to focus upon attempted suicide rather than suicide and upon children and adolescents rather than adults because (a) those

who attempted suicide can be interviewed, (b) responsible relatives, anxious about future attempts, may be less defensive in discussing the situation, and (c) reconstruction of the life situation is easier for children and adolescents than for adults and especially older adults.

This study is concerned with 100 consecutive attempted suicides by children and adolescents under the age of 18 coming to the attention of the Philadelphia Police Department during 1958 and 1959. Eighteen was used as the cut-off point because persons under this age fall under the jurisdiction of the Juvenile Aid Division of the Police Department. This division is often contacted by parents seeking emergency assistance or by hospitals where the adolescent is taken for treatment. Although suicide or attempted suicide is not a misdemeanor in Philadelphia, the Police Department not only provides help in emergency situations but also investigates the circumstances surrounding the attempt, to rule out any possibility of attempted homicide. Information about the characteristics of the adolescents at the time of the attempt was obtained from the official police reports.

During the 2-year period under study, there were 20 additional attempted suicides that came to the attention of the Poison Control Center of the Philadelphia Department of Public Health. These cases were not included in the study because little or no information was available. During the same period there was only one individual under the age of 18 classified as a suicide by the Office of the Medical Examiner.³ Based on reports from just two sources, *i.e.*, the Police Department and the Poison Control Center, the ratio of attempted to successful suicides was 120 to 1 among persons under age 18. This is probably an under-

¹ The authors are indebted to Mrs. Martha Lavell, now with the Commission on Human Relations, Philadelphia, for her helpful assistance in this study.

² Respectively, Division of Mental Health, and Division of Statistics and Research, Community Health Services, Philadelphia Dept. of Public Health.

³ The Medical Examiner of the Philadelphia Department of Public Health exercises by statute exclusive jurisdiction for determining the cause of death in all cases not attended by a physician or not due to natural causes.

estimation. Discussions with clinic directors in general hospitals as well as data from this study suggest that an unspecified number of attempted suicides do not come to the attention of any official agency. The ratio of attempted to successful suicide among adolescents in this study and that of 50 to 1 in another (3), is considerably higher than that found among adults where ratios have been estimated to be as low as 2 to 1 (2), although 5 to 1 has been reported more often.

The distribution of the attempts, by sex, race, and age is shown in Table 1. The age distribution shows that the overwhelming majority of attempts (87%) were made between the ages of 14 and 17. The ratio of 6 females to 1 male is considerably higher than the 3 to 1 sex ratio usually reported for attempted suicides among adults. The race distribution shows 52% white and 48% nonwhite. Since nonwhites constitute 31% of the total population between 10 and 19 years of age in Philadelphia, it is evident that they are overrepresented in the attempts, contributing one and one-half times their expected rate. The overrepresentation of nonwhites in the sample should be interpreted with considerable caution since whites, having greater resources, may prefer to use private facilities rather than official agencies in emergencies such as attempted suicide.

TABLE 1
Attempted Suicides by Age, Race and Sex

Age	White		Nonwhite	
	Male	Female	Male	Female
10	0	0	0	1
11	1	1	1	1
12	0	1	0	1
13	0	1	1	4
14	0	10	1	6
15	2	8	3	9
16	2	17	0	8
17	3	6	0	12
Total	8	44	6	42

There were no race differences with respect to any of the factors covered in this study. Age comparisons showed a significant difference only with respect to the reported circumstances precipitating or leading to the attempt. No sex comparisons were made

since there were only 14 males in the sample. Therefore, data will be presented for the total group only.

As might be expected among adolescents, the majority, 69%, were students. Seven percent were employed, 16% were in the labor market but out of work, 6% were engaged in family responsibilities including the care of children, and no information was available in 2% of the cases. No relationship was found between attempt and time of year when analyzed by month or by season, but there was a significant association with time of day. About 2 of every 3 attempts (63%) took place between 3:00 P.M. and midnight; fewer attempts (33%) occurred between midnight and 3:00 P.M., periods usually devoted to school or sleep. In 4% of the cases, the time of the attempt was not stated. Most of the adolescents (87%) attempted suicide in their own homes.

Eighty-three percent of the cases ingested poisonous substances, 5% inhaled illuminating gas, and 12% used a variety of other methods such as slashing wrists, jumping from high places, *etc.* Of those who ingested poisons, 25% used analgesics such as aspirin or aspirin compounds; 42% used sleeping pills or tranquilizers; 17% ingested medical preparations usually prescribed for external use such as iodine, rubbing alcohol, oil of wintergreen; and the remaining 16% used nonmedicinal preparations such as rat poison, ammonia, and bleach.

The circumstances precipitating or leading to the attempt, reported by the adolescent and those reported by the parent or responsible adult are shown in Table 2. The circumstances most frequently reported by the adolescents and by the parents involved conflict around events which are not uncommon in homes with adolescent children. These include responsibility for household chores, keeping of hours, personal appearance, school attendance, homework, choice of friends, visiting relatives, *etc.* About 1 of 5 adolescents reported difficulties with the opposite sex, situations ranging from a broken date to rejection following pregnancy; but only 1 of 10 parents referred to such difficulties as the basis for the attempt. As might be expected, difficulties with the opposite sex were reported more frequently by those 16 and 17

years old (25%) than by those under 16 (12%). Twice as many adolescents as parents (14% compared with 7%), mentioned fear of being unloved, fear of punishment, fear of failure, or fear of not measuring up to parental expectations. Sixteen percent of the cases and 11% of the parents reported other circumstances, some more explicit than others, *e.g.*, prolonged physical illness, psychotic episodes, and parent-child conflict around serious delinquent behavior. In 14% of the adolescents but in 33% of the parents, the precipitating circumstances were not stated in the police report or were reported by the respondent as not known. The difference between the circumstances reported by the adolescents and those reported by the parents is statistically significant (at the .01 level).

TABLE 2
Circumstances Precipitating the Suicidal Attempt
(in Percents), Reported by Adolescents and by
Parents

Circumstances	Adolescents	Parents
Conflict around common events	38	41
Difficulties with opposite sex	18	8
Specific fears	14	7
Other	16	11
Not stated or not known	14	33

$$\chi^2 = 14.90 \text{ df} = 4 \text{ P} = < .01.$$

Examination of the not-stated and not-known responses suggests that the parents of responsible adults were unaware of important problems in the lives of their children because of the reluctance of the adolescent to discuss these problems, the lack of parental interest or a poor relationship between parent and child. Of the 33 adults who gave or knew no reason for the attempt, there were 28 adolescents reporting the precipitating circumstances. In one-half of these cases, the adolescent reported difficulties in interpersonal, primarily "boy-girl" relationships; in one-seventh of the cases the adolescent reported feelings of being unloved; and in the remainder miscellaneous reasons were given. Of the 14 adolescents not reporting reasons for the suicidal attempt, there were 9 adults who gave information on the precipitating circumstances. In almost one-half of these

cases, the adult reported conflict around presumably common occurrences; for the others various reasons were given.

Information concerning the background of the cases was obtained by contacting health and welfare agencies to which the adolescent or his family had been known prior to the attempted suicide. These organizations were identified through the Social Service Exchange, the clearing house for registration of cases known to community agencies. A letter describing the purpose of the study was sent to each agency, requesting information regarding the nature of its contact with the adolescent or his family, with particular emphasis on relevant background factors. Public agencies made their records available for study; private voluntary agencies provided written summaries. Data obtained from health and welfare agencies were incomplete for many areas of interest and in general yielded little information not already available from a knowledge of the functions of these agencies. This is not surprising since these organizations gathered information to carry out their specialized functions and not to answer specific questions regarding persons who have shown suicidal behavior.

The health and welfare agencies to which the adolescent or members of his family had been known prior to the attempted suicide were classified as follows:

1. Health: in- or outpatient care at hospital or clinic for a physical condition.
2. Psychiatric: in- or outpatient care.
3. Economic: public assistance.
4. Protective: care and placement of neglected children.
5. Delinquency: police, court, correctional institution, probation.
6. Domestic relations: Municipal Court for Domestic Relations.
7. Counseling: family, school, marriage clinic.
8. Other: Red Cross, legal aid, day care center, *etc.*

The number of health and welfare agencies to which the cases under study or members of their families had been known ranged from 0 to 19 per family. Twenty-five percent of the families had no contacts, 48% had from 1 to 5 contacts, 21% from 6 to 10, 4% from 10 to 15 and 2% had 16 to 19 con-

tacts. The total number of agency contacts was 365, distributed as follows: delinquency, 118; protective, 55; domestic relations, 39; health, 39; counseling, 39; economic, 29; psychiatric, 26; and other agencies, 20. Included in the 75 families known to health and welfare agencies were 53 of the cases under study, 23 mothers, 13 fathers, and 32 siblings. Although no specific data are available regarding the extent to which the general population utilizes the services of health and welfare agencies in the community, it seems reasonable to say that the families in this study have had greater contact with welfare agencies than most families. A comparison of attempted suicide cases known to social agencies with those not known to any agency showed no significant differences between the two groups with respect to any of the factors covered in this study.

The total number of agency contacts may be misleading since recurring or chronic problems within families may have contributed a disproportionate number of contacts. Therefore, only unduplicated contacts, by type of agency and by family composition, were considered and are shown in Table 3. For example, if 1 of the cases had been known to 6 different delinquency agencies, the number of contacts with this type of agency was reported as only 1 contact in Table 3. If within the same family the mother had also been known to 3 different delinquency agencies, the father to 2, and 3 siblings to 6, the number of contacts in Table 3 was shown as only 1 contact for the case under study and none for the other members of his family. However, if these contacts by mother, father, and siblings occurred in a family where the case under study was not known to any delinquency agency, Table 3 would show 1 contact for other family members and none for the case under study. For domestic relations, public assistance, and protective agencies, contacts are reported in a separate category for the family as a whole.

The data in Table 3 show that family disorganization and the factors usually associated with family breakdown characterize the life experiences of the cases attempting suicide. Parental neglect, cruelty, and even abandonment were not uncommon. In 29%

of the cases the home situation was so poor that intervention by the Society for the Prevention of Cruelty to Children was necessary; in more than one-half of these cases some or all of the children were taken from the parents and placed in institutions or foster homes. At the time of the attempted suicide, almost one-half (47%) of the cases were from homes broken by separation, divorce or death by one or both parents. The extent of broken homes may be an underestimation since in 29% of the cases no information was available regarding the marital status of the parents.

TABLE 3
Percentage of Unduplicated Agency Contacts by
Type of Agency and by Family Composition

Type of Agency	Adolescent	Other Family Members	Family as a Unit	Total Contacts
Delinquency	33	18	0	51
Domestic relations	1	0	37	38
Counseling	10	6	16	32
Protective	0	0	29	29
Economic	0	0	28	28
Health	9	15	1	25
Psychiatric	14	3	0	17
Other	3	9	2	14

More than 1 of every 4 families had been or were recipients of public assistance in the period following World War II when the level of employment was high. The need for public assistance is especially significant since parents of adolescent children are generally in their most economically productive period. Four of 10 families were known to the Municipal Court of Domestic Relations. Some of these contacts involved court action against the father for failure to support his family or his illegitimate children; others required intervention because of severe conflict between the parents. About 1 in 3 families had had contact with counseling agencies: one-half of these cases were parents seeking help with marital problems; the others involved the adolescents attempting suicide or their siblings who presented problems in school with respect to attendance, performance or behavior. About 1 of 6 families had been known to a psychiatric clinic or hospital. However, the records of the counseling

agencies and psychiatric facilities suggest that these contacts were initiated by the school or general hospital clinic and not by the family which had little understanding of when or where to seek help. In 51% of the families, there was a history of delinquency, often extending over a period of years; of these more than 60% included the adolescents who attempted suicide. The amount of delinquency may be an underestimation since all who engage in delinquent behavior do not necessarily come to the attention of the police or courts. Some of the delinquency contacts were nonarrests, *i.e.*, cases never brought into court; others covered the entire range of offenses resulting in arrest, probation or sentence to a correctional institution. Essentially, there was little difference between nonarrest and arrest cases with respect to the seriousness of the offense. The action taken against the offender depended upon his age, the attitude of the police officer, and the likelihood of rehabilitation through the services of a community agency.

Little information is available on action taken by the family to prevent a recurrence of suicidal behavior. The records stated that some police officers advised the family to seek psychiatric or other specialized assistance. These suggestions or other considerations motivated some families to examine their own behavior and attitude toward the adolescent, and to take measures to prevent future attempts. However, very few families sought professional help. Using contacts with psychiatric or counseling agencies during the 6-month period following the suicide attempt as evidence of interest in seeking professional help, only 3% of the families initiated such contact.

CONCLUSIONS

Two important findings emerge from this

study of 100 children and adolescents who attempted suicide. The first is the association between attempted suicide and family disorganization. This has been demonstrated for adults by Batchelor and Napier who reported broken homes (deprivation in childhood of a normal life with parents) in 58% of 200 consecutive cases of attempted suicide admitted to a general hospital(1). Although the cases ranged in age from 15 to 83, only 6 were under 20. The second finding is the association between attempted suicide and delinquency, each representing acting-out behavior, not stemming from mental illness, in an attempt to control the social environment. The interrelatedness of attempted suicide, family disorganization, and delinquency is in line with the finding of investigators who have shown that family disorganization, with the concomitant factor of emotional deprivation in the formative years, gives rise to a host of problems which take different forms, *e.g.*, mental illness, morbidity, delinquency, and crime. Prediction of the specific form that the deviant behavior will take is most difficult since it depends upon the identification and understanding of the factors that contribute to the child's personality and behavior. Such factors include the behavior of the parents, their attitudes and values, the practices employed in the rearing of children, the nature of the parent-child relationship, and many other personal and social characteristics.

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CHANGING CONCEPTS OF PSYCHIATRIC EVALUATION

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When the patient arrives at the community mental health center, our aim is to help him as quickly and effectively as is possible with a minimum of confusion and "handling." To accomplish these goals, it was necessary to challenge some of the sacred cows of the "team" approach. Let's see what was done about the reception, diagnostic appraisal, and disposition of new patients at The Bradley Center.

Our present method of evaluating patients consists of the following procedures: The applicant is seen by our clinical secretary who gives him a folder of self-administered tests and questionnaires, which are to be completed and returned before his initial interview. The battery includes the Cornell Index, the Mooney Problem Check List, the M.M.P.I., and an especially prepared biographical questionnaire. The patient is then seen by the psychiatrist-medical director, who, with the help of the previously scored and prepared material, is able to formulate a reliable diagnostic impression, appraise resistances and defenses, prescribe a form of treatment or make other disposition of the case, discuss fees, and assign the patient to a staff member for psychotherapy with relative sureness. Other members of the staff, psychiatric social worker and psychologist, are used as consultants for further evaluation when this is needed. The above method is used routinely in our handling of adults. Child guidance and marital problems have required some modification of this formula (4).

What we have gradually evolved is a pre-interview screening and personality assessment battery. The use of the biographical questionnaire has proven to be particularly valuable, giving us in a majority of instances information and insights into the patient's background and his pattern of handling stress which could not be duplicated in many information-gathering

interviews. It is our impression that the patient benefits considerably from the experience of systematic self-examination required to fill out all forms.

When The Bradley Center opened 6 years ago, we adopted, with several revisions, the traditional method for evaluating applicants which (with numerous exceptions due to specific circumstances) consisted essentially of 4 steps: an initial interview with the psychiatric social worker; an examination by the clinical psychologist; an interview with the psychiatrist; and one or more staff conferences for final diagnosis and disposition.

At the Center patients were seen initially by the psychiatric social worker for at least one interview lasting 1½ hours. Psychological examinations were given infrequently when specifically indicated. Then the case was discussed at a regularly scheduled staff conference where the patient was interviewed by the psychiatrist for 20-30 minutes. The staff then discussed the patient and arrived at a diagnosis and recommendations.

We soon became aware of a number of complaints and problems:

1. The cost of our diagnostic evaluation, which we as a fee-charging clinic passed on to the patient, was excessively high. This was true in spite of the fact that our fees are moderate and do not represent the full cost of the services rendered. Thus the procedure was also proving costly to the Center.

2. The staff was spending up to 30% of our clinical time in diagnostic work thus limiting the amount of time available for treatment.

3. Patients complained of long delays and devious routes taken before final disposition.

4. Referring professional persons, particularly physicians, could not understand why acutely disturbed patients they had referred could not be seen directly by the psychiatrist or receive treatment for many weeks.

To determine how essential our tradi-

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tional intake, diagnostic, and staff conference methods were, we conducted a simple study. A questionnaire was prepared for the staff containing 11 items considered important in arriving at a diagnosis and treatment plan. Included were questions about clinical diagnosis, character diagnosis, level of anxiety, capacity for insight, adequacy of reality testing, social competence, capacity for forming close interpersonal relationships, capacity to benefit from psychotherapy, and others. The questionnaire was filled out twice by the staff: the first time before the patient was interviewed but after all reports had been presented and discussed in a staff conference; the second time after the patient had been interviewed at a staff meeting and the results discussed. A sample of 30 consecutive adult patients was used. The results showed that the agreement between pre- and post-interview conferences opinions on clinical diagnosis was 50%; on character diagnosis only 42%. Major changes were found in 33% of opinions about clinical diagnosis and 50% of opinions about character diagnosis. Agreement on non-diagnostic questions dealing with opinions such as level of anxiety, capacity for insight, capacity to benefit from psychotherapy, and others, ranged from 60% to a high of 83%.

These results suggested that conventional methods of intake and preliminary study permit a wide range of uncertainty and disagreement; that they require duplication in order to achieve reliability; and that they do not contribute significant information commensurate with the time and money invested in such procedures.

Thus it was decided to strip our evaluation process to the bare essentials. In a psychiatric clinic, one of the essentials is that the medical director must assume responsibility for diagnosis and disposition. It was decided that, since the patient must ultimately get to the psychiatrist, we would have the psychiatrist see the patient first. The psychiatrist would then be in the position to take immediate actions such as the use of chemotherapy, referral to a hospital if required, and other emergency steps as indicated. If emergency action was not required, the psychiatrist had the authority to assign patients suitable for thera-

py to one of the staff members. If further study was necessary, the psychiatrist would call on other staff members to assist. All conventional and routine staff meetings were abolished as were routine social work interviews and testing. This change produced immediate, observable, and quite dramatic results. There was an immediate increase in the number of treatment hours available; the delay between application for services and the start of treatment dropped markedly; the cost of diagnostic services dropped considerably; there was a noticeable improvement in patient morale and in relationships with professional groups in the community.

The medical director became aware of the burden of conducting long, detailed diagnostic interviews with an unknown patient. He found it necessary to spend 1½ hours in each interview. We gradually adopted as our long range research effort the development of techniques for large scale mental health screening and assessment and the demonstration that such techniques are feasible and economically advantageous in conducting community-wide programs for the improvement of mental health(3). A key feature of this project was the assembling of a battery of screening and assessment devices which were simple and economical to administer and score, did not require a great deal of professional time, and could eventually be simplified for use by nonpsychiatrically trained professional people such as physicians, nurses, social workers, ministers, and others. We assembled the battery mentioned previously and constructed a biographical questionnaire. We administered the battery to a sample of 101 normal subjects and, in addition, conducted 2 one-half hour interviews with each subject. The medical director, realizing its usefulness, started using the battery of tests for the pre-interview evaluation of patients. Very soon it became clear that this method produced a considerable decrease in the amount of his time required for the diagnostic interview. At times, it was possible for patients to have started psychotherapy with another staff member within days after the initial interview. This material along with a brief, pointed résumé of the psychiatrist's clinical

findings made it easier for other staff members to follow through with psychotherapy in a more efficient manner.

The magnitude of the benefits derived from the changes in our methods of evaluating new patients is reflected in our annual figures for diagnostic and psychotherapy interviews over a 2-year period, during which the changes were introduced and during which we were operating with the same staff. In the year ending April 31, 1958, 732 diagnostic interviews and consultations and 2,543 psychotherapy interviews were conducted. For the following year, 368 diagnostic interviews and consultations and 2,864 psychotherapeutic interviews were conducted. Thus, in one year, there was a decrease of 266 diagnostic interviews and consultations and an increase of 321 psychotherapy interviews. These figures tell only part of the story; there was a very sharp rise in research activities, reflected in an increase in research conferences from 8 during the 1958 period to 197 during the 1959 period. Much of the time for a rapidly expanding research program was made available to us by the reduction in unnecessary diagnostic procedures and conferences.

Early results in our first research project, begun in the spring of 1957, indicate we have developed simple, effective and systematic methods for mental health assessment, counseling, and referral which can be readily taught to such professional groups as physicians and ministers. With these techniques incorporated into their everyday practice, they can more effectively meet the needs of persons with psychiatric and social problems(5, 6).

A second research project has dealt with Frankl's claim that the great illness of our time is the sense of a loss of meaning or purpose in life. In an attempt to verify this and determine some of its implications diagnostically and therapeutically, we have devised a Purpose-in-Life Test and are in the process of gathering data from both patient and nonpatient groups which will be published later.

It is our impression that many of the mental health clinics are groping for more effective methods to meet the needs of the very large number of troubled persons com-

ing to them for help(2). A willingness to experiment and a critical examination of the sacred "traditional" procedures would, in a very great number of cases, expose duplication and inefficient use of time and skills. Screening devices could materially reduce waiting lists, and lead to early referral of patients to more appropriate sources of help.

Our findings and experience present a challenge to the philosophical orientation of the traditional psychiatric team. Too often the "team" approach has simply meant having 2 or 3 professional persons doing the work that could be done adequately by one. Too often the "team" functions in such a way as to force the patient to adapt or adjust to the clinic's rigidity instead of the clinic being more flexible to better meet the needs of the patients(1). With our new methods each professional member of the clinic staff faces a challenge to increase his proficiency or face a loss of status. The psychiatrist is faced with the most immediate challenge to become a more astute diagnostician with minimal information. He must become more informed of community resources. Perhaps the most striking challenge to the psychiatrist is the pressure on him to accept the potentialities of other professions to do psychotherapy; to demand their continued improvement in this service; and finally to communicate his confidence in the nonmedical therapist to the patient. The psychologist is under pressure to increase his skill and responsibility in conducting psychotherapy. In the area of diagnostic skill, he may be forced to minimize or discard the routine use of long, expensive and poorly validated tests and learn to make more adequate use of simpler, objective tests. The psychiatric social worker also is challenged to develop psychotherapeutic skills. The long intake interview and report which takes so much of the social worker's time may eventually prove inefficient and uneconomical and the use of shorter, more pointed consultations may be required. The training schools for social workers and psychologists may be challenged to improve training facilities in psychotherapy and counseling.

We believe that our work and the work of many others in this field will eventually

result in an ever growing demand for more effective, economical methods for better serving the psychiatric outpatient in our communities.

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AUTOMOBILE ACCIDENTS, SUICIDE AND UNCONSCIOUS MOTIVATION¹

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Suicide or attempted suicide is usually considered in terms of conscious and overt self-destructive action. However, data introduced in this paper³ suggest that many persons with self-destructive inclinations may attempt to destroy or injure themselves through automobile accidents and that these accidents are rarely perceived as suicidal attempts by either the driver or the public.

Failure to reduce the large number of traffic accidents through punitive or educational measures has resulted in diverse efforts to assess the personalities of drivers who incur more accidents than their fellows. Conger, *et al.*, stressed the poor control of hostility, low tolerance for tension, dependency, egocentricity, and unreflectiveness found in their accident group(1). Tillman and Hobbs, investigating both low and high accident taxicab drivers, found that the latter could not tolerate and were chronically in revolt against authority. This group was also characterized by antisocial attitudes, impulsivity, distractibility, and marital and fiscal irresponsibility(2). The above investigators made no reference to suicide or depression as a contributory factor but did find evidence of poor hostility control.

Recently, the authors initiated a research effort to determine if any correlation existed between suicidal disposition and automobile accidents. Interviews were held with 30 alcoholic and 30 non-alcoholic male inpatients who were undergoing psychiatric treatment at the Veterans Readjustment Center of the University of Michigan. Data obtained included suicidal attempts, past or present persistent preoccupation with suicidal thoughts, and a history of all traffic accidents for which the patients were re-

sponsible. (Inasmuch as all patients were undergoing psychotherapy, the data relating to suicidal preoccupation could later be confirmed with the therapist. It was our impression that the psychotherapy contributed to the patients' candor in revealing traffic transgressions and suicidal preoccupation.)

In the 60-patient group, 33 men admitted having seriously considered committing suicide or reported one or more suicidal attempts while 27 men disclaimed a history of either. The 2 groups did not differ significantly in miles driven or socio-economic background. The median age for each group was 33.5 years with a total age range for both groups of 24-58 years. Psychiatric diagnoses of the suicidal and non-suicidal groups respectively were: personality disorders (predominantly passive-aggressive personality), 20 and 18; schizophrenia, 9 and 7; psychoneuroses, 4 and 2; and chronic brain syndrome, 0 and 1.

The 33 "suicidal" men were responsible for 89 automobile accidents with a mean of 2.70 accidents per person. The 27 non-suicidal patients accounted for 36 automobile accidents or 1.30 accidents per person (Table 1). Thus, there were over twice as

TABLE 1
Lifetime Automobile Accident Totals of 60 Psychiatric Patients Classified According to Suicidal Proclivities and Alcoholism

	SUICIDAL NO. ACCIDENTS MEAN			NON-SUICIDAL NO. ACCIDENTS MEAN		
Alcoholic	17	63	3.70	13	24	1.77
Non-Alcoholic	16	26	1.62	14	12	0.86
Totals	33	89	2.70	27	36	1.30

many accidents per person among the group who had serious suicidal thoughts or had made suicidal attempts than among those who had not considered suicide. Because of the distribution of accidents (Table 2), a test on logarithmic transformation was used which established a significant accident difference between the 2 groups in the range of .01-.05.

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TABLE 2
Automobile Accident Distribution

NO. OF ACCIDENTS	SUICIDAL ALCOHOLICS	SUICIDAL NON-ALCOHOLICS	NON-SUICIDAL ALCOHOLICS	NON-SUICIDAL NON-ALCOHOLICS
13	1			
7	2			
6	2			
5	2			
4		1		
3	2	3	3	
2	2	3	6	2
1	4	7	3	8
0	2	2	1	4
Patient Totals	17	16	13	14

THE ALCOHOLIC GROUP

Since the alcoholic's responsibility for automobile accidents might be attributed solely to intoxication(3), the accident breakdown within the alcoholic group was of particular interest. Of the 30 alcoholics interviewed, 17 were suicidal using the above criteria. These 17 suicidal alcoholics were responsible for 63 automobile accidents whereas the 13 non-suicidal alcoholics precipitated a total of 24 accidents, yielding mean values of 3.70 and 1.77 accidents per person for each group respectively (Table 1). Here again the suicidal group accumulated a mean accident value twice that of the non-suicidal group. This difference was also significant ($p=.05$), and of course independent of the patient's alcoholism which was a constant for the entire group. It appears, then, that intoxication *per se* may not be the sole determinative factor in automobile accidents caused by alcoholic drivers (4). This may be of importance in light of several investigations indicating that the so-called "drinking driver" who is brought to the attention of the police or the coroner is quite frequently an alcoholic rather than a social drinker who has overimbibed(5, 6, 7).

In the 30-patient non-alcoholic group, the 16 suicidal patients reported 26 accidents, and the 14 non-suicidal patients reported 12 accidents. The respective mean values for accidents per patient were 1.62 and 0.86 (Table 1). Although the non-alcoholic, suicidal group averaged almost twice as many accidents per patient as the non-alcoholic, non-suicidal group, the dif-

ference here proved to be of borderline significance ($p=.06$).

ATTEMPTED SUICIDE

On the assumption that the individuals who converted their suicidal thoughts into action would have more automobile accidents than those who did not, the 33-patient suicidal group was broken down into the 12 patients who had actually attempted suicide and the 21 who had merely been preoccupied with suicidal thoughts and fantasies. The 12 "suicide attempters" (9 alcoholics and 3 non-alcoholics) accumulated 43 accidents while the remaining 21 patients in the suicidal group reported a total of 46 accidents, yielding mean values of 3.60 and 2.20 accidents per patient respectively. This difference was not statistically significant (perhaps due to the small numbers involved), and hence we could not say that the increased accident rate of persons with suicidal preoccupation depended on whether or not they actually had attempted suicide in the past. It is interesting to note that of the 21 conscious suicidal attempts reported by the 12 patients who attempted suicide only one attempt was made by the patient deliberately wrecking his car.

COMMENT

There are a number of compelling reasons for the self-destructive individual to become the victim of his own erratic driving. Suicide is a regressive phenomenon. It has even been described as a perversion: "an indirect form of gratifying instinctual drives in a manner more primitive and more infantile

than normal"(8). The overt expression of self-destructive impulses—whether fundamentally oral, libidinal, or aggressive—implies that the individual has reached a *modus vivendi* with his superego in order to accomplish his regressive suicidal task. The automobile lends itself admirably to attempts at self-destruction because of the frequency of its use, the generally accepted inherent hazards of driving, and the fact that it offers the individual an opportunity to imperil or end his life without consciously confronting himself with his suicidal intent. All but one of the men in this study perceived their traffic mishaps as completely fortuitous.⁴

Stone has pointed out that cultural and situational factors may influence the mode of suicide selected (11). Certainly ours is a culture in which speed and daring are admired. (Witness the heavily attended annual debacle at Indianapolis where high speed collisions and a human sacrifice are an accepted and almost inevitable occurrence.) The automobile presents the depressed and frustrated individual with an opportunity to end his life in what *he* may perceive as a burst of glory. The automobile may also constitute a special enticement to the aggressive and vengeful feelings present in many would-be suicides. In an accident not only is the automobile damaged or demolished but so is any object struck by the automobile—human or otherwise. More conventional modes of suicide do not offer as dramatic an opportunity for the gratification of destructive and aggressive impulses. All this may be further complicated by the fact that even a half-hearted suicidal *gesture*, initiated while driving an automobile at

high speeds or on a crowded highway, may set in motion irrevocable forces which result in catastrophe.

Alcoholism.—The self-destructive bias of the alcoholic has been emphasized by several investigators (12, 13) as has the alcoholic's predilection for automobile accidents and serious traffic violations (3, 5, 7). In our study, alcoholism was significantly related to automobile accidents at a 1% level of confidence (Table 1). Not surprisingly, most of the alcoholics' automobile accidents (59%) occurred when the principals were intoxicated. Superficially one would be inclined to attribute this to greater and more frequent intoxication with resultant driving impairment. However, most alcoholics' suicidal attempts also occur when they are intoxicated (13, 14). Of the 9 alcoholic patients who admitted to suicidal attempts, 7 probably were intoxicated when they made their attempts. In addition to producing driving impairment, the effect of alcohol *vis-à-vis* both automobile accidents and overt suicidal attempts is probably that of neutralizing the protective function of the superego. Alcohol often precipitates acting-out behavior in persons who otherwise are quite capable of controlling their unacceptable impulses (15). Similarly, intoxication may permit the overt expression of self-destructive impulses in the same manner that it lowers superego restraints against aggressive and libidinal drives. In such instances, the automobile accident may be viewed as an expression of underlying self-destructive (and aggressive) impulses liberated by the effects of alcohol (4).

SUMMARY

Thirty alcoholic and 30 non-alcoholic male psychiatric patients were evaluated to determine past serious suicidal preoccupation or previous suicidal attempts. These data were correlated with the total number of automobile accidents for which the patient was responsible.

The 33 patients deemed to be suicidal averaged 2.70 accidents per patient whereas the 27 non-suicidal patients averaged 1.30 accidents. In the 30-patient alcoholic group, the 17 suicidal patients were responsible for 63 accidents, whereas the 13 non-suicidal patients were responsible for 24 accidents,

⁴ It should not be assumed, however, that all suicidally motivated automobile accidents are the product of unconscious processes. As noted above, one patient consciously and deliberately tried to end his life by driving a car into a solid object at high speed. A current study by the Harvard Department of Legal Medicine has revealed a number of fatal automobile accidents in which the calculated and planned suicidal intent was unmistakable (9). In addition, life insurance company actuaries have expressed concern over the disproportionately high number of fatal automobile accidents in the first year of double indemnity life insurance policies and have speculated that this may be due to "simulation of accidental death conditions by persons who actually committed suicide" (10).

yielding mean values of 3.70 and 1.77 accidents per person respectively. These differences were statistically significant.

Due to the accepted and real hazards of driving, the automobile constitutes an ideal self-injurious or self-destructive instrument, particularly for persons intent upon camouflaging their suicidal motivation from others—and from themselves. With one exception, all patients believed their traffic accidents were fortuitous.

Alcohol intoxication may be responsible for automobile accidents not only because of the resultant driving impairment, but also because of its potential for reducing the controlling and conforming function of the superego, thus releasing aggressive and self-destructive impulses which find expression in traffic "accidents."

This investigation points toward the possibility that unconscious self-destructive impulses, sometimes abetted by alcohol intoxication, are a major although covert factor in the etiology of certain automobile accidents.

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SYSTEMATIC DESENSITIZATION WITH PHOBIC SCHIZOPHRENICS

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"Psychotic patients do not respond to this treatment and of course receive it only if misdiagnosed as neurotic"(7). Thus is dismissed without a thorough investigation, a potentially useful therapeutic technique, systematic desensitization. As King(3) has shown, psychotic patients do respond to conditioning techniques and the benefits derived therefrom do generalize to other situations.

Although the paradigm of King differs considerably from that of Wolpe they both are essentially an attempt at treatment using learning principles. Certainly, there are many patients who are confined to a mental hospital because of one primary phobic or obsessional symptom. In some cases if this symptom can be removed the patient could return to society. Admittedly, the patient would have to be able to attend to the therapeutic situation and be able to recognize and communicate to the therapist what is an anxiety-arousing stimulus. As Reynolds(5) points out, the lack of similarity between a patient's verbal and overt behavior casts doubt on his ability to perform adequately any of the patient's duties in Wolpe's technique, such as arranging the hierarchy, guiding the relaxation training, or signalling the therapist when a high level of anxiety was reached. This verbal-behavioral discrepancy has been verified elsewhere(1).

Thus, there seem to be two major stumbling blocks in using this method with schizophrenics: 1) their unreliability in picking out anxiety stimuli, and 2) their inattentiveness and lack of concentration during therapy.

The authors, having demonstrated in a laboratory situation that schizophrenics do respond to systematic desensitization(2), felt it necessary to attempt to use the technique with actual clinical symptoms. Two long-term mental patients, with well structured and encapsulated phobic reactions,

were chosen as experimental subjects. Both carried the diagnosis of paranoid schizophrenia. The methodology used was the same as used in a previous experiment(2) and, as described by Wolpe(7), and Lazovik and Lang(4). The results are presented in the form of a case report.

S1 was a 27-year-old, single, high school graduate who had served in the Marine Corps for 3 years. A survey of his clinical folder revealed that this patient began withdrawing and becoming more solitary toward the end of his military service. When he returned home he became very tense, restless, refused to work and drank excessively. He had frequent arguments with his parents. His mother became ill and was hospitalized and treated for a stroke and/or some mental disorder. The patient felt that the family blamed him for the mother's illness and as a result left home, toured the country, and, when he ran out of money, finally got a job in the midwest in electronics. Gradually he became quite hallucinated and deluded (delusions of reference, influence, persecution, etc.). Upon his return home the arguments with his family became more violent and he threatened to kill certain members.

He admitted himself to the hospital in 1956 and was diagnosed as schizophrenic reaction, paranoid type. He received a course of insulin coma treatments, with little sustained improvement, and has been treated with various tranquilizers since that time. He was seen in regular psychotherapy, off and on from 1957 to 1961, with little change shown on his part.

This patient was chosen for desensitization because he showed a clear-cut phobic reaction of being unable to talk to other people without becoming extremely panicky and frightened.

His movement in the usual type of psychotherapy had been very slow. Primarily, he appeared to be passively resistive and at times negativistic. Rarely did he speak freely for a whole interview, and this happened only when he was feeling at his best. Discussing such things as familial relations, anger, sex, etc., was quite traumatic to him. He would tremble, chain smoke, become

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tearful or block completely and claim that his mind was blank.

The patient was asked to participate in this experiment and he agreed. The symptom to be removed was his marked fear of talking to other people. Experimental procedure began in October of 1960 and stopped with the eighteenth session in January of 1961. Some of the items from the hierarchy are talking freely :

2. About a movie you saw.
3. About your experience to an interested and sympathetic nurse.
6. About something extremely serious in a joking manner to nurse B.
7. To a patient in canteen who looks sloppy or revolting to you.
11. About current events to someone you consider less intelligent than you.
12. About current events to someone you consider more intelligent than you.
14. About your symptoms of mental illness to your therapist.
16. About your symptoms of mental illness to the ward nurse, Miss B or Miss D.
17. About your personal difficulties to a pretty girl in a restaurant.
18. About your symptoms of mental illness and very personal difficulties to Dr. E.
19. About your very personal difficulties to your sister.
20. About your very personal difficulties such as hallucinations, delusions of persecution, racing thoughts, in group therapy.
22. About your very personal difficulties to your father.
24. To both your mother and father about your future plans or your lack of future plans.

The subject seemed to learn relaxation techniques quickly. However, his outside practice tended to be irregular. He preferred to practice while lying down, rather than while sitting. Invariably, he relaxed enough to fall asleep. Scores on Forms A and B of the Stanford Hypnotic Susceptibility Scale were both 11 out of a possible score of 12. He stated he was able to visualize the hierarchy scenes quite vividly. He refused to raise his hand if he felt disturbed ; and he reported afterward that he thought he "would wait it out"—the second presentation of the scene was not as disturbing. Fortunately, this was reported in the first desensitization session, so thereafter, the experimenter watched for be-

havioral cues of disturbance (sharp intake of breath, tensing of body, rapid breathing, swallowing, *etc.*), and then stopped the visualization.

When about half way through the hierarchy, patient, ward personnel and others who worked with the patient, reported that he was more relaxed, friendly, and much more talkative. Auditory hallucinations had ceased before the experiment. However, there were other symptoms which bothered him and these began to decrease in severity. They ceased entirely within a month or two after the last experimental session. These were unusual thoughts, vivid dreams which disturbed his sleep, and ideas of reference. He began going home on passes again. He became regular in attendance and efficient in his work assignments. Cigarette smoking decreased. In regular therapy he talked freely and at length and was able to discuss things he had not mentioned in more than 3 years.

Patient reported that he still had some difficulty in talking in a very talkative group. For example, once while home on a weekend, many relatives were there and everyone seemed to be trying to talk at the same time. Patient stated he felt overwhelmed and had to leave the room.

However, on a pass in early May he discussed with his mother and father the possibility of his coming home to live with them when discharged from the hospital. This was a very unusual bit of behavior for this patient. However, the parents refused to accept him at home. He stated that he felt very disappointed and was somewhat depressed afterwards. So far, no adverse effects have become manifest, and the patient continues to be relatively talkative. This case might well be considered a successful demonstration of the desensitization therapy with schizophrenic subjects.

S2 was a 42-year-old World War II Navy veteran. He was admitted to this hospital in 1955 with an admission diagnosis of paranoid schizophrenia, and has been hospitalized continuously since then. The symptoms present at admission were primarily ideas of reference and delusions revolving around financial matters. He felt that his wife, sister, minister, and friends were trying to take his property and money away from him.

He has been combative prior to and ever since admission. An assault upon his sister was the event that led to his present hospitalization. During the first 3 years of hospitalization he was continuously combative and was controlled in this matter only by EST. A symptom that he developed shortly after admission was difficulty in urination. This difficulty was manifested only when it was necessary for him to urinate in the presence of other people. If he was permitted to enter a booth the difficulty disappeared. He also expressed considerable concern over being sterile. He has had very little sexual experience other than with his wife, and even this has not occurred with much frequency. His records reveal that in 1958 he began to develop the symptom of being unable to leave a room without thoroughly checking to make sure he left nothing behind him. The primary thing he feared leaving behind was a letter. He told the experimenter that the worst thing he could leave behind was a letter dealing with financial matters. Also, the combativeness subsided considerably once this other symptom of checking on leaving something behind him appeared. If the checking subsided then the combative behavior would begin to occur.

He was very anxious, extremely tense and had great difficulty in relaxing. Beyond the symptom of constantly checking for fear of leaving something behind him, the patient was rational and oriented. He was able to discuss various subjects and had some insight into his illness. He realized that the reason for his continued hospitalization was his inability to leave a room without the constant checking.

This patient seemed like an ideal candidate for the technique of systematic desensitization. His symptom was a marked obsessional reaction which appeared to be amenable to hierarchy development and gradual desensitization. This treatment technique was discussed with the patient, hypnosis was described to him and he was given the choice of participating in the experiment. He was quite enthusiastic about the therapy since he himself stated that ordinary psychotherapy had been of little benefit to him. Incidentally, this man had been exposed to continuous psychotherapy since admission to the hospital.

On the Stanford Hypnotic Susceptibility Test he achieved a score of 8. Following this he was instructed in relaxation techniques and was told to practice as frequently

as he could. This patient did very little practicing of relaxation on his own time. It may well be that this patient was unable to relax by himself because of his constant need to be alert against anyone taking anything which belonged to him. Another manifestation of this patient's symptoms was the need to collect large numbers of letters which had been written to him. At times there would be as many as 20 letters on his person. He would have them tucked in his belt, inside his shirt, and in all his pockets, even in his socks.

This subject was seen for 56 sessions. The usual technique was followed, in that there was a discussion of his fear of leaving things behind: then the development of the hierarchy, and followed by relaxation training. The hierarchy is as follows, with the least anxiety creating situation as No. 1:

1. Entering a room
2. Leaving yesterday's newspaper behind
3. Leaving today's newspaper behind
4. Leaving a book
5. Leaving an advertisement received in the mail
6. Leaving a bill received in the mail
7. Leaving a pencil
8. Leaving an office
9. Leaving a picture of mother
10. Leaving a picture of the wife
11. Leaving the ward
12. Leaving the day room
13. Leaving a letter from his aunt
14. Leaving a letter from a person he hadn't seen in 10 years
15. Leaving a letter from a recent friend
16. Leaving a letter from another aunt
17. Leaving a letter from his mother
18. Leaving a letter from his wife
19. Leaving a letter from his guardian

The hierarchy was constantly manipulated and changed to fit the therapeutic situation. As described before, the items had to be made extremely specific for the patient not to respond with anxiety. Starting with session 11, assertive responses were used with the relaxation technique. The patient was requested to leave a blank sheet of paper in the room when he left. Later it was necessary for the patient to sign his name on the sheet of paper and leave it behind him. Then this was followed

by writing the name and address of his mother on a sheet of paper and leaving it in the room which was quite disturbing at first. Eventually, however, the patient got to the point where he could do this with considerable ease. Periodically, it was necessary to keep the patient hypnotized until he was out of the room because of the extreme tension and inability to make the voluntary move. Also, it was necessary at times to devote the entire session to relaxation and hypnosis because of the extreme tension and anxiety displayed by this patient.

Another unusual thing about this case is the fact that the patient was more disturbed when he had *no* letters on his person to check their presence. In other words, it appeared that the letters served as a "Jonah Rag" and were something upon which he could concentrate his anxiety. This may well fit in with the idea that the fear of leaving a letter behind him replaced the inability to urinate and the delusions about someone taking his money and property. So long as he could check on the letters, he felt the other two situations were handled. Also, the combative behavior increased when the checking decreased.

Following the 56th and last session, the patient had shown some improvement in that the combative behavior had decreased and the patient was able to leave a room when the therapist was present. However, this behavior did not generalize to other personnel. Upon completion of the experiment the patient was able to lay all his letters on the table and leave the room and walk out of the ward so long as the therapist was present.

The results with this patient were not nearly as successful as with S1. Whether this is a function of the patient's inability to pick out the anxiety stimuli and respond to it or whether it is due to his inattentiveness and lack of concentration it is difficult to say. However, from all appearances the patient was able to attend to the treatment situation and concentrate upon the scenes presented. One possibility in this case may be that the patient's symptoms serve as a terrific secondary gain to him in that it relieved him of anxiety involving other situations and concentrated it all in one area. Thus the removal of the symptom could

have resulted in overwhelming, all-pervasive anxiety which would make the patient extremely uncomfortable.

Actually this symptom may not have been anxiety-creating—that is, leaving things behind; but rather the symptom was anxiety-relieving. Removal of this symptom may actually have increased the degree of anxiety which is converse to what is required of systematic desensitization.

The results of these two cases indicate that Wolpe's psychotherapy by reciprocal inhibition can be an effective therapeutic technique with schizophrenic subjects. However, due to the marked variability found in the schizophrenic population it can be effective only with certain specific cases. This is reasonable since the term schizophrenia does not define a homogeneous population. Therefore, one should not expect a particular therapy to be effective with the entire population.

It is possible that with S2, he was unable to identify the various anxiety-creating stimuli. Rather than using the verbal report which is frequently discrepant from the actual feeling or behavior of the schizophrenic subject as shown by Cowden, Reynolds and Ford(1) we should look for more objective measures of anxiety. What is needed is a more objective method of identifying stimuli which are anxiety producing for the individual schizophrenic. For example, peripherally recorded somatic responses may be able to serve this function of anxiety indicators. This would relieve the subject of the responsibility of indicating to the therapist what is anxiety-creating and what is anxiety-reducing.

CONCLUSION

Systematic desensitization is an effective therapeutic technique for some schizophrenic subjects. This neither refutes nor supports Wolpe's statement that psychosis is due to biochemical or physiological changes. It simply reaffirms that all learned behavior can be unlearned, even with schizophrenics.

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THERAPEUTIC PROCESS AND BEHAVIOR—AS OBSERVED IN PHYSICAL REHABILITATION¹

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Psychiatrists are seeking a better understanding of what takes place between the patient and therapist to result in improved behavior(1, 2, 3). Two levels of psychotherapy are recognized. One, "deep therapy," is conducted through a prolonged and intensive process called "psychoanalysis." There is the most serious disagreement here as to what is improvement and how such change occurs(4, 5). Reports of careful studies are awaited(2). The other, "superficial therapy," is widely recognized as playing a most significant role in a person's struggle to live and to grow, but our understanding of this process is woefully insufficient and rests at present upon such inadequately validated explanatory terms as "rapport," "suggestion," "identification," "transference," "insight," *etc.* What is needed is detailed study of behavior as it changes in relation to changing therapeutic conditions so that the principles underlying such a widespread and critically significant phenomenon can be elucidated more adequately. Methodologically, patients with disturbed motor behavior particularly lend themselves to such a study at the clinical level because this aspect of behavior is readily and publicly observed and measured.

In physical medicine and rehabilitation, patients with physical handicaps whose motor performance and general functioning change markedly with therapeutic intervention can be observed. When problem patients continuously fail to learn despite apparently adequate neuromuscular capacities, they begin to exhibit reactions that are characteristic of *mental illness*, *i.e.*, their behavior is markedly inappropriate to the task being attempted and in the existing conditions they fail to learn to perform

more capably. When, after consultation and study, therapeutic conditions can be introduced which are more suited to the individual patients, they behave in a way that is typical of *mental health*, *i.e.*, they function and learn more effectively.

We may then ask this question: What occurs in successful physical rehabilitation that determines a change in the patient's behavior from that typical of mental illness to that of mental health? Hopefully, the answer to this question may delineate the common factors in therapy that influence a change in behavior and suggest some of the principles governing the relationship in physical rehabilitation and possibly in "superficial" psychotherapy.

The hypothesis offered here is that rehabilitation problems develop when a patient tries to achieve goals currently beyond him and that therapeutic intervention succeeds by focussing the patient's attention on individualized goals that are achievable and related to the prescribed goal. Thus, selective attention, regarded as critical for consciousness by William James(6) in 1890, is believed to be the key to generating more effective functioning and learning in the presence of disturbed behavior.

This hypothesis is in accord also with a contemporary conception that associates the operation of the brain with particular fields of sensory information which may vary from moment to moment with the shift of attention(7, 8). The data received centrally must be neither too much nor too little for the brain's current processing capacities(9, 10). Otherwise, stress and disorganization, which, clinically, are manifested in inappropriate and stereotyped behavior, arise and get worse as further effort, under unfavorable conditions, causes the discrepancy to widen between the patient's goals and his actions (11, 12, 13).

Therapeutic intervention controls the field of stimulation so as to maintain the cerebral organization necessary for effective behavior and learning, thereby preventing

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the rising stress and spiralling disorganization that accompanies continuing inability to achieve a goal (14).

This hypothesis has evolved over an 8-year period from many hundreds of observations of problem patients with all categories of motor disability. In them, measurable beneficial change resulted when goals suited to the individual's motor and psychological handicaps could be developed and introduced. Fifteen such cases are reported elsewhere (15, 16). Here, 5 abbreviated cases will be used to illustrate both the behavioral changes accompanying failure and success in physical rehabilitation and the therapeutic measures that induced constructive changes in motor function. The disability was predominantly psychologic in the first 2 cases and organic (neurologic) in the others.

1. A 53-year-old man with conversion hysteria arched backwards automatically when confronted with the slightest degree of uncertainty. This reflexive hysterical defense reaction gravely interfered with his balancing ability. There was insufficient neuromuscular pathology to explain the symptom. Very slowly, and with great difficulty, he learned during the rehabilitation program to stand in the parallel bars with hands stretched out sideways. Then, when he was asked to stand with arms extended forward, he immediately reared backwards and almost fell. With each attempt, he usually appeared tense; his mouth quivered as he spoke, his neck vessels pulsated vigorously and rapidly, perspiration beaded his forehead, and sweat stained most of his shirt. Again and again, over a period of weeks, he failed until the staff feared that he was hopeless.

As the patient found himself increasingly unable to control his involuntary reactions to the task a new approach was taken. A therapist stood in the bars in front of the patient and let the patient's forward-stretched hands just touch his. This enabled the patient to stand as directed, first with palms touching and then separated by 2 inches. If the gap was widened to 4 inches, however, the disruptive, massive hyperextension reappeared.

By letting the patient gain stability at a 2-inch, and then a 3-inch distance, he was able to learn to handle the 4-inch distance. Pursuit of such highly personalized immediate goals permitted the patient to master progressively each successive level over a 2-week period until finally he was able to stand alone with his

arms before him. Under the new conditions in that situation the rearing reaction occurred less often and was less extensive. Simultaneously, he appeared less tense and distraught.

2. A 63-year-old man, with a major diagnosis of hysteria, suffered from episodes of grossly disassociated states of consciousness including disorientation for time, place and person, and from a delusion of having "3 heads." Examination failed to reveal any neurologic or neuromuscular disturbance.

The patient regarded himself as "the calmest man, with patience for everything." He complained strongly, however, of severe pain almost perpetually in his back and particularly in his legs. As he flexed his right knee to 20 degrees he said, as he grimaced and shuddered, that the pain became terrific "like a cutting of the flesh that is in the hollow of the bone." He then stopped and straightened his leg saying that it was unbearable. He was then asked to bend his knee as much as possible and to *focus on the pain itself* and to report any change in its severity as he observed it. He volunteered that the pain had never gotten the least bit better with time—only worse—unless he straightened it out or got some medication. But to his amazement as he complied with the request, he observed the pain going through irregular phases of getting worse and better even though the knee remained flexed. Indeed, while observing himself in this way, he was able to flex his knee 90 degrees more than he could do alone in the presence of pain.

We may assume that as he focussed on the vividly envisioned "tearing" of his flesh, he reacted automatically to this image in ways that added to his pain. In turn, this whole process decreased when he shifted his attention as directed, and concentrated on measuring and reporting changes in the severity of the pain.

3. D.L., a 10-year-old boy with congenital brain damage of unknown etiology, was intelligent and had no detectable neuromuscular or sensory disorder. However, he had unusual difficulty in approaching many different kinds of new tasks. When asked to chart a graph, he said "I can't . . . I can't do remainders (*sic*) . . . I want to go . . ." and got up to leave. He was then asked to try to stay and to do what he could, no matter how poor the result might be.

As he again took up the pencil, he began to ask a host of apparently unrelated questions, started to rub his penis vigorously through his

trousers, and wrote "shit" on a piece of paper. The therapist ignored the patient's reactions, which he regarded as responses to the stress of anticipated failure, and pressed him back to the task, helping him, step by step, to organize the concept of the graph, starting with what he knew and could handle. The patient was told when he was doing better or when he was doing worse. Within 4 sessions he had learned to handle the graph problem very satisfactorily. As he learned, his disordered reactions to stress in that situation decreased and then disappeared.

The graph, by virtue of its remote and indiscriminate association with arithmetic problems, apparently evoked reactions linked to previous disturbing failures. These defensive reactions tended to interfere with performance and also to antagonize the person trying to help him. By recognizing these relationships the therapist could help to focus on the problem in such a way that constructive performance and learning resulted.

4. A 72-year-old, right-handed man with a left hemiparesis had a weakness of the right upper extremity without any detectable impairment of sensation.

The rehabilitation objective was for the patient to feed himself. As he attempted this, his hand shook wildly and he did inexplicably badly. After 3 weeks of fruitless effort, the patient was refusing to make any more such efforts and was abusing the staff. He demanded that they feed him, calling them his servants, and was widely disliked for his arrogance and uncooperativeness.

Examination then revealed for the first time that he got upset when he encountered a persisting discrepancy between what he *saw* and what he *felt*. As he tried to gather the food and carry it to his mouth, he noted that the spoon was to the left of where he felt it was. Upon bringing the spoon to where he sensed his mouth was, he saw it resting 1 inch below his chin. He said "I must be crazy," and appeared agitated at this revelation.

He was then told that his perplexing difficulty could probably be better ascribed to brain damage. He was encouraged to make new efforts with the immediate aim of trying to pick up the food *as he kept looking at it*. Slowly his ability to perform the procedure in a coordinated way improved and within a week he was able to bring the spoon to his mouth readily. His abusiveness and negativism

disappeared. Apparently, repeated effort with suitably focussed attention established new neuronal relationships between visual, kinesthetic and proprioceptive impulses which were more appropriate to the attempted action.

5. A.I., a 45-year-old woman with parkinsonism of 11 years' duration reported that for the past 3 months she had been unable to turn the door-knob to open a door. She said that other functions, such as cutting food on her plate, holding a cup, *etc.*, had also been lost abruptly and irretrievably. She remarked that she expected to end up a hopeless cripple and regarded the new loss of function as signalling imminent total loss of muscular control. She vividly visualized herself leading a wheelchair hospital existence. As she spoke in this way, she began to shake markedly and said she did not like to think about such unhappy events because it made her feel and act worse. She was then taken to the door and asked to try turning the knob. She put her hand on it and said, "I can't." No turning movement could be observed and this was called to her attention. She was surprised and said that she felt she had tried and had failed. When she made another attempt, she herself noted how little her hand rotated. With conscious effort—under visual control—she slowly turned the knob and with amazement opened the door.

After 2 weeks of practice she was enabled to do this automatically. Many other "lost" functions were similarly regained when the patient was able to focus completely on the task and to practice until she succeeded (16).

Presumably, when this patient functioned at the automatic level, the pathologic spasticity, rigidity and tremor were most pronounced. Thus, as she became obsessively taken up with depressing thoughts and feelings, most of her movements became automatic and she exhibited pathologic motor elements. When, on the other hand, she focussed predominantly on the task, she was able to learn to use still intact sensory and muscular capacities to achieve the desired action.

DISCUSSION

When a patient continues to fail in his program and acts inappropriately, he becomes concerned with an endless array of private goals as well as the designated therapeutic task. In ways typical of his personality, he becomes concerned with the growing disorder and discomfort of his body and

mind and also with his relationship to the therapist. His concept of the present automatically evokes arresting and distressing images of himself in the future. To each of these views there is a prepared defensive reaction. This changing and pyramiding conglomeration of goals and reactions sets up swarms of conflicting stimuli that overwhelm the brain's current organizing capacities. The more the patient attempts, the more scattered and ineffective he becomes.

Favorable therapeutic conditions stop the spiralling disorganization and restore the patient's capacities for functioning and learning productively by helping him act effectively (*i.e.*, to achieve what he tries to do). This desired result is accomplished 1. By focussing the patient's attention on more attainable goals that are sequentially related to the prescribed task, and 2. By providing meaningful contact in relation to which the patient can almost immediately act effectively when, in the course of the program, crises develop and disorganization becomes severe and uncontrollable.

Focussing of attention on selected goals is made possible mainly by making "effort" the immediate, readily attainable aim; by formulating new goals still connected to the distant prescribed goal that are more interesting or less dissimilar from previously accomplished ones; and by providing the patient with information that tells him when he is closer or further from the immediate objective.

Meaningful contact focusses the patient's attention upon interpersonal stimuli to which he can and does react effectively. By the same action, disorganizing stimuli associated with peripheral and conflicting goals are inhibited. Such meaningful contact can be physical, verbal or non-verbal, immediate or anticipated. The touch of a hand, the exchange of a word or glance now or in the expected future may suffice to restore the operation of healthy capabilities. An illuminating idea or a strong belief can also provide the same *organizing framework*.

Some principles governing the relationship between therapy and behavior are as follows:

1. It is probable that the immediacy and

the extent of meaningful contact needed by the patient for healthy functioning is proportional to the degree of disorganization being experienced.³

2. The more obstructive to the prescribed routine are the patient's particular physical handicap and his historically developed stereotyped reactions (*i.e.*, his psychological handicap), the more discriminating must be the selection of the next immediate goal. Sometimes, particularly when the problem is severe, these interfering factors necessitate a drastic alteration in the rate and route by which learning occurs before progress can be made.

3. When severe, disorganizing stress develops, the patient is dependent upon another person to create the conditions necessary for effective action and learning.

4. At each higher level of endeavor as the patient advances towards greater independence in his rehabilitation program, renewed disturbance of behavior is to be anticipated along with renewed need for some form of reorganizing contact.

SUMMARY

When the physically handicapped patient continuously fails to achieve his goal, a growing state of stress and disorganization reflected in ineffective and inappropriate behavior results. Therapeutic conditions favorably influence behavior by affecting the immediate goals to which the patient attends so that they are more attainable and linked to the desired goal. Under such conditions the performance of an effective action (*i.e.*, one that achieves its goal) reduces stress and restores the organization necessary for appropriate behavior and constructive learning. Thus the nature of the therapeutic conditions may determine the current balance between appropriate and inappropriate behavior and enable constructive learning to take place in the presence of severe stress.

³ Such a relationship between disorganization and contact may be a more useful explanation for the excessive dependence observed in psychotherapy than the explanations offered by prevailing psychoanalytic theories, most of which regard the current phenomenon as a re-enactment of an earlier familial relationship.

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CHEMOTHERAPY COMPARED WITH ELECTROSHOCK IN 104 PATIENTS WITH RELAPSING PSYCHIATRIC DISORDERS

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The advent of electroshock brought treatment of suicidal and homicidal psychoses from the state hospital to the local community. EST has had, and continues to have, a bad press. Physicians accustomed to treating disease with no less poisonous agents than mercury, arsenic and snake venom, and surgeons accustomed to guillotine amputation alike regard EST as a brutal measure. Accustomed to the quiet of the sick room and the discipline of surgery, our colleagues tend to deny the existence of those ills which lead to self-destruction, on the one hand, and matricide and patricide on the other. The natural history of the outcome of depression is suicide and the natural history of the outcome of untreated schizophrenia is matricide and patricide. When confronted with the suffering of the mentally afflicted our colleagues, like the doctor watching Lady Macbeth who, having instigated parricide, was plagued by guilt to suicide, are inclined to say, "This disease is beyond my practice." EST is a treatment that disassembles the machinery of both the suicidal and the parenticidal processes alike. It has its usefulness in the self-destructive depressions and the parental destructive schizophrenias.

This study was undertaken in an attempt to determine the efficacy of the amine oxidase inhibitors (1-3) as compared with EST in the treatment of recurrent depressions. One hundred and two private patients who had had EST prior to the advent of the phenothiazines and the amine oxidase inhibitors were treated during relapses by these psychopharmacologic agents in the endeavor to avoid the use of EST. In some instances this was possible; in other instances it was not. It was expected that the amine oxidase inhibitors would replace EST in a large measure. This does not appear to have been clearly demonstrated. However, many schizophrenic patients in whom depressive periods previously required EST were maintained in manage-

able moods by the use of the phenothiazines in follow-up treatment and as a consequence did not suffer depressive relapses.

The private practicing psychiatrist finds it difficult to use controlled grouping of patients for a double-blind drug evaluation. However, he is in a better position for longitudinal case study than most institutional practitioners. His range of case material is likely to comprise those persons who respond to therapy, or cases that recover spontaneously. In any psychiatric care program the spontaneous recoveries tend to enhance the apparent value of the therapeutic agent. The practitioner uses the treatment that seems to him the most effective, and he is inclined to regard the agent that was administered to the last case that recovered as the best. Under the impact of pharmaceutical advertising, and his need of more effective drugs, he gives priority to the newest nostrum.

EST has so far been this author's most predictable method in the management of psychotic behavior. Gradually over the years some of the phenothiazines have come to be relied upon. The first monoamine oxidase inhibitor, iproniazid (Marsilid²), proved to be dangerously toxic. However, prior to its being withdrawn from the market a number of patients who formerly responded only to EST were treated with iproniazid. In 1959, when several other amine oxidase inhibitors were introduced (4-6), the author attempted to find one that promised to be safe.

In appraising the new agent, isocarboxazid (Marplan²), liver function was tested by determination of the serum glutamic pyruvic transaminase (SGP-T). The amine oxidase inhibitors are relatively tissue-specific in their action on brain, heart, lungs and liver. The serum glutamic oxaloacetic transaminase test (SGO-T) is more specific for cardiac tissue and the SGP-T

² Trademark of Hoffmann-La Roche Inc., Nutley, N. J.

¹ 179 Irvington Ave., South Orange, N. J.

is more specific for hepatic tissue damage. Therefore, the SGP-T was used as the transaminase test of choice. The test was customarily carried out on the tenth day of the initial 30 mg. per day dosage. Where a patient's history and physical examination gave any suspicion of liver damage, the drug was not used unless consultation with a competent internist, and a battery of liver function tests indicated it could be employed safely. After the initial tenth-day SGP-T the test was repeated at intervals of two weeks until the dosage was lowered to 10 mg. per day, after which it was done at intervals of approximately two months. One hundred and four SGP-T tests were done in connection with this study. During 3 years there were no elevated reactions, and a less rigid schedule has since been adopted. There have been no complications in the author's use of isocarboxazid.

The material for study was divided into three rough diagnostic categories (see Table 1) : I. *Schizophrenia*, including catatonic, paranoid and schizo-affective disorders. There were no simple or hebephrenic schizophrenics in the series. II. *Psychotic Depression*, including manic-depressive depressions and involutional psychotic depressions. III. *Reactive Depression*, including patients with psychoneuroses in whom the episode of depression had been sufficiently severe to need electrical or pharmacologic treatment. For the most part this group comprised the phobic reactions in which periods of depression were pronounced, as well as those obsessive compulsive neuroses in which periods of depression were accompanied by profound increase of the obsessive and compulsive symptoms.

Of the 104 cases selected for the study, 19 were eliminated either because a clear decision could not be made of the efficacy of the drug used in the relapse as compared with EST administered during the initial episode on the one hand, or because there was not a clear-cut period of remission between treatments. The 19 cases dropped included 4 schizophrenics, 8 manic-depressive depressions and 7 reactive depressions. Of the 85 cases considered useful for contrasting the efficacy of EST with pharmacologic treatment, 17 cases were schizophrenic, 45 were manic-depressive depressions and 23 reactive depressions.

Results of treatment are tabulated in Table 1. In the group of schizophrenic patients it was possible to treat successfully 6 patients in relapse with pharmacologic agents alone, whereas in 11 both EST and drugs were necessary. In the manic-depressive depressions it was possible to treat 22 of the 45 patients in relapse without the use of EST, whereas in 23 it was not possible to do without EST. Of the 23 patients with depressive reactions, 16 were treated with drugs alone, and only 7 required EST in their recurrent episodes. In this group of 23 depressive reactions most of the patients remained in contact with the physician during periods of remission, receiving group or individual psychotherapy. The efficacy of psychotherapy, or the ability of these patients to profit from it, may account for the fact that 70% of them were able to get through their relapses without EST.

As the study proceeded, it became apparent that those schizophrenic patients who were successfully treated without EST responded best to the phenothiazines (chlorpromazine and trifluoperazine). In

TABLE 1
Results of Treatment of Relapsing Disorders

PATIENTS PREVIOUSLY TREATED SUCCESSFULLY WITH EST	NO. OF CASES	SAME PATIENTS IN RELAPSE SUCCESSFULLY TREATED WITH DRUGS ALONE		PATIENTS NEEDING BOTH DRUGS AND EST FOR TREATMENT IN RELAPSE	%
Schizophrenia	17	6	35	11	65
Manic-depressive (depressed)	45	23	51	22	49
Depressive reactions	23	16	70	7	30
Total	85	45	53	40	47

the category of the psychotic depressions those patients who were successfully treated by chemotherapy alone were handled primarily by isocarboxazid (Marplan) for relief of depression and were then stabilized on lower doses of isocarboxazid and maintenance doses of trifluoperazine (Stelazine³). For the third category—the depressions attending psychoneurotic reactions—the list of drugs tried unsuccessfully is discouragingly varied. Many of the phenothiazines, meprobamate, diphenylmethane and nialamide were included. Apparently the first two categories of psychiatric ills have definite, albeit different pathologic aspects that are amenable to treatment by tangible agents of physical (electrical) and chemical (psychopharmacologic) nature. The patients in the third category seem to be best treated by psychotherapy; thus, primitive and archaic instinctual drives may be replaced by more satisfactory and more mature behavior.

COMMENT

This report is intended as a discussion in psychobiology as well as an attempt to assess the relative value of electrical and pharmacological treatment of the psychoses and neuroses. There are many variables involved in both methods and both are changing so rapidly that the drugs and the type of electrical treatment used in this study may very well be obsolete tomorrow—if they are not already.

This study clearly establishes* the fact that EST administered as an alternating current to produce a total neuronal discharge resulting in a generalized, grand mal type of convulsion is an effective agent in the treatment of schizophrenic as well as manic-depressive disorders. By producing total neuronal discharge with attendant refractoriness of the neuronal nets and reverberating circuits, EST affords the brain a return to homeostasis relatively free of the distressing driving forces exerted by latterly acquired engrams. This study also clearly establishes the fact that disordered mental states may be roughly divided into two succinct categories: the schizophrenic type of disorder that responds primarily to one

set of chemicals, the phenothiazines, and a second type, the depressive disorders that respond primarily to the amine oxidase inhibitors.

The author believes that the phenothiazines, by depressing the reticular activating mechanism, facilitate the attenuation of responses to distracting stimuli.

The ability to ignore distracting stimuli is the first prerequisite to learning and a prime requisite for rational behavior. The amine oxidase inhibitors, by blocking the metabolism of the biologic amines (serotonin, norepinephrine, *etc.*), raise the brain levels of these products of neurosecretory cells, thus acting as antidepressants. It is these neurosecretory, humoral products whose chemistry determines the mechanisms of mirth or melancholy.

Our tabulation suggests that the benefits of pharmacotherapy and EST are about equal, with 53% of the patients able to get through relapses without EST. But, as we pointed out, psychotherapy—the third factor in management of the psychiatric patient—probably played a decisive role in the patients with depressive reactions.

When we add to the picture the imponderables represented by the individual patient we get even further from the possibility of statistical statement. Some patients do not tolerate EST; in these cases chemotherapy is a valuable alternate. In other patients the phenothiazines are contraindicated because of cardiac or hepatic conditions; or an occasional patient may develop wholly unexpected side effects to a drug considered entirely safe. This throws us back upon our earlier resource, EST. And though effects of psychotherapy vary tremendously from patient to patient, we must never forget its fundamental role in long term rehabilitation.

As for the short term resources of EST and chemotherapy, their function is certainly not limited to bringing the patient through an emergency; frequently they help the patient to achieve better insight and a higher level of functioning. Since both methods have proved indispensable, it seems idle to adopt one and eliminate the other. Instead, it is more to the point to improve both methods, especially by reducing their hazards.

³ Smith Kline & French Laboratories, Philadelphia, Pa.

The hazards of chemotherapy have been pointed out in a recent article by Paul W. Wilcox(7), who is a devotee of ECT and EST adapted in the individual case. Some of his patients receive EST, others a milder, nonconvulsive form which he calls electrostimulation. The wide use of the new drugs, with their "complex and hidden side effects," he writes, "forces me to believe that my colleagues have not mastered the relatively simple methods of delicate and differential electrostimulation, combined with active psychotherapy, which make possible a high standard of therapy against which to compare the drugs."

The author, too, fears the side effects of drugs. He also has fear of injuries sustained in EST. However, if we give in to all this fear we shall be constrained to whine like the doctor in the play, "This disease is beyond my practice." By all means, let us

attempt to master the techniques of EST, let us encourage the development of safer drugs and saner psychotherapy. If in this striving we succeed in finding basic truths, we can establish psychiatry upon firmer foundations.

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ABSTRACTS

THYROID IMPAIRMENT IN CHRONIC ALCOHOLICS¹

MARSHALL GOLDBERG, M.D.²

Previous studies by Richter have suggested the existence of an inverse relationship between thyroid function and voluntary alcoholic intake in rats. Accordingly, Richter has proposed that thyroid hypofunction might contribute to the abnormal craving for alcohol possessing human alcoholics. A preliminary study of the thyroid status of 33 chronic alcoholics carried out by this author in 1958 seemed to support Richter's contentions, in that 21 (64%) were found to be thyroid deficient to varying degrees. The present study was undertaken to confirm and extend these observations in a larger group of chronic alcoholics.

The group studied was composed of 82 males and 18 females, ranging from 23 to 65 years old. All were confirmed chronic alcoholics selected at random from the registry of the hospital's Alcoholism Clinic. Patients with known or suspected coronary disease or adrenal insufficiency (both relative contraindications to thyroid hormone therapy) were excluded from the study. Likewise excluded were patients with either historical, physical or laboratory evidence of liver dysfunction and those currently receiving antabuse. The methods used to assess thyroid function were the following: 1. One or more baseline protein-bound iodine (PBI) determinations, 2. The rise in the PBI 24 hours after the intramuscular injection of ten international units of a potent thyrotropic hormone preparation, 3. The electrometric recordings of the Achilles tendon reflex by the Lawson *kinemometer* apparatus, and 4. The tanned red cell agglutination procedure to detect the presence of circulating thyroglobulin antibodies.

Since it is well-documented that both acute and chronic liver disease can falsely elevate the measurements of several thyroid parameters, the response of the PBI to thyrotropic hormone was employed to help increase the accuracy of diagnosing thyroid deficiency in alcoholics with sub-clinical liver disease. Though a relatively new innovation, the Lawson *kinemometer* has proved itself to be an excellent screening test for thyroid disease and has been well over 90% accurate in distinguishing euthyroidism from even the milder degrees of hypothyroidism in several thousand patients tested.

In addition to a suggestive history and physical appearance, the following criteria were used to diagnose probable hypothyroidism: 1. A baseline PBI level below 4.0 $\mu\text{g.}$, 2. Failure of the PBI to rise over 1.0 $\mu\text{g.}$ 24 hours post-TSH, 3. A contraction phase of the Achilles reflex exceeding 280 milliseconds, and 4. Significant objective and subjective improvement regarding the signs and symptoms attributable to hypothyroidism while receiving physiological amounts of thyroid replacement (average daily dosage: 100 $\mu\text{g.}$ of triiodothyronine or 180 mg. of thyroglobulin) and *maintenance* of such improvement over a year follow-up period. Sufficient thyroid hormone to keep the Achilles reflex tracing in the vicinity of 240 milliseconds, an optimal level in most cases, was found to be the most reliable guide to adequate hormonal therapy. Moreover, a sudden, unexplained lengthening of the reflex in someone taking the rapidly-metabolized thyroid derivative, L-triiodothyronine, has proven to be a valuable adjunct for detecting if the patient omits his pills or takes them haphazardly.

RESULTS

Forty-five of the 100 chronic alcoholics tested were found to be thyroid deficient to varying degrees by the diagnostic criteria

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previously mentioned, 47 patients were considered euthyroid, and the remaining 8 patients were placed in a "borderline hypothyroid" category since their test results were inconclusive. Among 90 patients tested for the presence of circulating thyroglobulin antibodies, significant antibody titers were detected in the serums of 18 of the 45 hypothyroid alcoholics (41%) and in none of the serums of euthyroid alcoholics.

DISCUSSION

Although it has been reported that alcoholic addiction is rarely encountered in patients with active thyrotoxicosis, there is no convincing evidence that the converse holds true: namely—that hypothyroid patients are frequently alcoholics. Rather, it is the author's hypothesis that the alcoholism antedates and leads to thyroid impairment in the majority of instances where the two disorders are found to co-exist. Though it remains to be proven, it is conceivable that repeated high concentrations of blood alcohol can exert a "toxic" action on the thyroid, setting into play an autoimmune-type thyroiditis which eventuates progressive thyroid deficiency. Histological studies of the thyroid glands of laboratory animals subjected to acute and chronic alcoholic poisoning have, in fact, demonstrated gross disruption of the thyroid architecture with rupture of the thyroid follicles. Taken in the light of present knowledge

concerning the pathogenesis of chronic thyroiditis, such an effect of alcohol on the thyroid could presumably trigger an autoimmune response to thyroglobulin or other thyroid antigens inappropriately released into the circulation.

Among 47 patients considered to be frank or borderline hypothyroid and treated with thyroid hormone, 16 were lost to follow-up and the remaining 31 were observed on treatment for a minimum period of one year. Twenty-four (77%) of the thyroid-treated patients seemed to derive considerable benefit from their return to a euthyroid status—both insofar as their general health and ability to control their alcoholic intake were concerned. However, the improvement shown in their drinking habits per se was likely the result of multiple therapeutic and psychological factors—in particular, the patients' own insight and motivation—and cannot be directly attributed to their hormonal therapy. It is concluded that a high incidence of hypothyroidism exists among *true* chronic alcoholics and deserves attention in their over-all management.

The treatment of the alcoholic whose laboratory tests clearly shows him to be hypothyroid logically serves to correct a potentially debilitating complication triggered by his excessive, long-term drinking, *but cannot and should not be expected to correct his underlying disease state: the abnormal craving for alcohol.*

WHY PATIENTS WITH BRAIN TUMORS COME TO A PSYCHIATRIC HOSPITAL :

A THIRTY-YEAR SURVEY¹

FREDERICK B. REMINGTON, M.D., AND SHIRLEY L. RUBERT, M.D.²

The charts of all patients discharged from the Syracuse Psychiatric Hospital with a diagnosis of "psychosis due to brain tumor" were reviewed to determine the reasons

which led to hospitalization. The frequency of this diagnosis over a 30-year period was 0.2%, with 34 patients studied. This figure, lower than the usual state hospital 2%-3%, is explained by the fact that this is exclusively a short term hospital for acutely disturbed patients. All patients were admitted for behavioral or thinking disturbances. Only 10 of the 34 cases were known to have brain tumors on admission. The

¹ Delivered at the Upstate Interhospital Conference, Syracuse, N. Y., April 1961.

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remainder were hospitalized for diagnosis and treatment of presumed "functional" disorders. An accurate diagnosis was readily established whenever sensorimotor (neurological) symptoms were present, but when psychological symptoms alone presented, the patients were diagnosed as a functional problem. "Psychological" symptoms noted were: depression (8 cases), memory deficit (7 cases), combative behavior (5 cases), personality "change" (2 cases), paranoid ideas (2 cases), marked agitation (2 cases), and severe obsessional ideas (1 case). One patient had been diagnosed as having idiopathic epilepsy for years, and two others had been diagnosed before and after admission as having hebephrenic and catatonic schizophrenia. In all cases the brain tumor diagnosis was established only after a period of hospitalization during which the sensorimotor symptoms appeared. Several patients were receiving electroconvulsive or insulin shock therapy when clear cut sensorimotor symptoms first became apparent.

Since this hospital's experience in misdiagnosis is not unique, we raised the question why these cases were missed. Some physicians think the symptom triad of vomiting, headache and papilledema is present in all cases of brain tumor and do not entertain the diagnosis unless present. This leads to errors. Overemphasis of the progressive nature of tumor symptoms is a further reason for misdiagnosis, since such symptoms may be intermittent. Further causes are the doctor's lack of brain tumor awareness and failure to consider differential diagnostic possibilities. A tumor should be considered whenever a diagnosis of Alzheimer's or Pick's disease, arteriosclerotic dementia, encephalitis, parkinson's disease, cerebral vascular accident, multiple sclerosis, epilepsy or subdural hematoma is made.

What is the origin of the more purely "psychological" symptoms exhibited by these patients? Many exhibited the typical symptoms of the organic brain syndrome

resulting from tissue destruction by the tumor. More difficult to explain is the origin of psychological symptoms indistinguishable from the functional psychotic syndromes of schizophrenia or depression. Four alternate explanations exist: 1) a brain tumor may develop coincidentally in a functionally psychotic person; 2) a tumor may directly "cause" a psychological syndromes of schizophrenia or depression. psychosis in a way as yet organically unexplained; 3) the patient may develop such a functional disturbance secondary to inappropriate treatment by associates who do not understand the nature of his organic deficit (e.g., confusion or memory loss); and 4) the patient may develop a functional disturbance secondary to his subjective awareness of brain damage and loss of function. This last reason is seldom given adequate weight in explaining the origin of purely functional symptoms in patients with organic brain diseases. Depression has been long known to be precipitated by real or symbolic object loss. Since the brain damaged tumor patient has lost a significant part of his own personality, it is not surprising that depression was the leading functional symptom in our series.

Patients with brain tumors have occasionally sought psychotherapy for their psychological symptoms. The psychiatrist should make strenuous effort to diagnose and refer such patients early. Since 30%-40% of all brain tumors are benign meningiomas, often correctable by neurosurgery, early diagnosis may be lifesaving. Many writers have suggested that more frequent electroencephalograms, air studies, or angiograms be performed on psychiatric patients in order to establish diagnoses earlier. To do this is technically difficult and expensive. A constant "brain tumor consciousness" is the psychiatrist's best asset in diagnosing these patients early. He should also use appropriate psychological tests for brain damage in questionable cases.

CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

MULTIPLE SOMATIC COMPLAINTS AS A PRECURSOR OF SCHIZOPHRENIA

WILLIAM OFFENKRANTZ, M.D.¹

This report is part of a larger study which has attempted to specify the premorbid characteristics of patients who later become schizophrenic.

The investigation of 1000 consecutive admissions to a VA Hospital revealed that 455 had been given the diagnosis of schizophrenic reaction. Review of the military medical records of these 455 patients indicated that 144 of them had been evaluated psychiatrically while still in service, but none had been diagnosed as schizophrenic, although 131 of the group had received a different psychiatric diagnosis. Further review of the military psychiatric records of the 144 indicated that 45 had demonstrable clinical evidence of schizophrenia on the basis of recorded observations. (This judgment was based on the recorded presence of more than one of the following items: 1. Perceptual disturbances, manifested by hallucinations; 2. Thought disturbances such as delusions, gross intellectual deterioration or fragmentation of thought and speech; 3. Affective disturbances, usually inappropriateness of emotional responses; 4. Behavioral disturbances such as social withdrawal, immobility, waxy flexibility; or 5. Regression, as evidenced by incontinence or bizarre exhibitionism.)

Thus, after setting aside this group of 45 patients who were clinically schizophrenic, a final group remained, consisting of 99 patients of the original 1000 who met all the following criteria: 1. The diagnosis of schizophrenia was made at the time of admission to the VAH; 2. Their military medical records were available and indicated that they had been examined psychiatrically while in service; 3. The diag-

nosis of schizophrenia had never been made while in service, although 86 of the 99 had received a psychiatric diagnosis of some kind; and 4. The military medical records did not show gross clinical evidence of schizophrenia.

The records of these 99 patients were examined in detail, and one of the findings was that 82 of the 99 had complained of at least one bodily symptom, including 67 who had reported multiple physical complaints. Most frequent difficulties were referred, in order, to the neuromuscular, gastrointestinal, or EENT systems. In every case, whether or not an organic condition was suspected, the physician made a note indicating his impressions of a psychiatric difficulty, but never made the diagnosis of schizophrenia. Furthermore, at the time they left service, none of the patients were given a diagnosis referable to the bodily complaints previously noted.

Although it has been traditionally accepted that somatic complaints are especially prevalent among military personnel suffering from a variety of emotional disturbances, it seems quite possible that these patients with somatic complaints were demonstrating true hypochondriasis: the intense, unshakable preoccupation with nonexistent bodily illness, which has long been recognized as a precursor to severe mental illness. In 1893, Magnan(1) described the clinical characteristics of "chronic psychosis," as its long duration and steady progression through four phases. He said "the first, incubation, is characterized by . . . increasing preoccupation. . . . At that period [the patient] could be mistaken for a hypochondriac." Bleuler, in his 1923 textbook(2), declared that hypochondria is "no longer recognized as a separate disease," and noted its occurrence in a variety

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of "mental diseases" including dementia praecox (schizophrenia). In 1945, Fenichel (3), writing from a psychoanalytic point of view, noted that hypochondriasis "is an important complication in all psychoses, especially in their initial stages."

SUMMARY

Evidence has been presented to suggest that a significantly high proportion of a group of schizophrenic patients showed clinical evidence of a psychiatric disorder while in military service prior to the onset of the obvious schizophrenic illness. Furthermore, the evidence indicates that this

earlier disorder was characterized in part by the presence of (multiple) somatic complaints, which may well represent the classical picture of true hypochondriasis.

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FUNKENSTEIN TEST IN NEWLY ADMITTED FEMALE SCHIZOPHRENICS

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Since 1948 there have been numerous articles on the Funkenstein Test. Almost all articles since 1958 report findings unfavorable to the test.

One hundred seventy-two tests were administered to 48 newly admitted female schizophrenics who were placed in three groups and treated for 1 month as follows: Group A—(28 patients) 800 mg. chlorpromazine daily, Group B—(13 patients) 40 mg. trifluoperazine daily, Group C—(7 patients) 20 mg. fluphenazine daily. Those failing to show significant improvement on medication were then given a series of 15 ECTs.

Tests were administered on admission, after 2 weeks, after 4 weeks, and at 9 weeks (following ECT). After basal readings were obtained patients received epinephrine IV following which methacholine was administered subcutaneously. All tests were performed by the same examiner.

Results were determined by the methods of Funkenstein(1), Gelhorn(2), and Arneson(3), as well as a determination of the area outlined by averaging the millimeters of mercury drop below the basal level over a 20-minute period.

There was no significant difference in the

groupings of the improved vs. unimproved as ascertained by any of these four methods (Table I).

TABLE I
Results of Funkenstein Test as Determined by Four Methods

METHOD	TOTAL PATIENTS (48)	IM-PROVED (27)	UNIM-PROVED (21)
Funkenstein			
Group 1-5	38	20	18
Group 6-7	10	7	3
Gelhorn			
Group—Normal and Hyperreactive	31	19	12
Group Hyporeactive	17	8	9
Arneson			
Slight response	11	6	5
Moderate response	33	19	14
Marked response	4	2	2
Methacholine Area			
Above -26			
Range +43 to -26	23	13	10
Below -27			
Range -27 to -108	25	14	11

In this study the grouping of individual patients varied markedly having no relationship to diagnosis, medication, ECT, or state of improvement. Basal blood pressure

¹ Richmond State Hospital, Richmond, Indiana.

readings were not informative.

Our findings corroborate Braun and Rettek(4), who found the Funkenstein test offering no prognostic value in predicting the response to therapy with tranquilizers.

SUMMARY

This study of 172 Funkenstein tests administered to 48 newly admitted female schizophrenics and scored by 4 methods echoes the sentiment expressed by most authors in recent years, *i.e.*, the Funkenstein test offers little in the way of predict-

ing the treatment of choice or the prognosis that can be expected.

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ACETOPHENAZINE IN AMBULATORY SCHIZOPHRENIC ADULTS

HARRY F. DARLING, M.D.¹

Seventy-five ambulatory schizophrenics were treated with acetophenazine (Tindal)² in the writer's private practice. Dosage varied between 10 and 150 mg. daily; mean dose was 30 mg. daily, but almost as many patients were on 40 mg. daily. The patients were psychotic in varying degrees and, although not all of them were committable on the basis of their symptoms, they were all psychotic enough to be beyond the prodromal or subclinical stage. It would be expected that a higher mean dose would be used if they were all acute enough to be committable.

Twenty-four cases were mixed or unclassified; 4 patients were classified as chronic undifferentiated type, and 6 as acute undifferentiated, 10 were paranoid type, 1 was schizo-affective, and 20 were catatonics. Average age was 26, and the group was about evenly divided between males and females.

Marked improvement was noted in 48 patients, moderate improvement in 10, and the remainder were minimally improved, unimproved or aggravated. Ten patients were taken off the drug as the result of drowsiness or lethargy at a dose sufficient to control their illness; these are included

in the unimproved group. Akathisia occurred in 2 patients, in 1 at 100 mg. and the other at 40 mg., and 8 patients had parkinsonian symptoms. One of the akathic patients could be controlled with an anti-parkinsonian agent and the other (taking 40 mg. daily) could not, and one parkinsonian patient was controllable. Two patients had blurring of vision, 1 had equilibrium imbalance (on 10 mg. daily), and 1 had drooling. Dry nasopharynx was complained of by 3 patients.

Of interest were the 10 paranoid patients who did well on low dosages, varying between 20 and 80 mg. daily with a mean of 40 mg. It has been the writer's personal observation over the years that paranoid schizophrenics take a high dose, at least double that of other schizophrenics. This is an observation and not based on definite statistics. It is felt that study in this area is recommended to determine if this phenothiazine is effective in lower doses than others. It seems to be much more than a coincidence.

As in previous work with this drug³ it is felt that it is smoother than other piperazines and acts more like aliphatic phenothiazines; it is a good drug to work with in this respect because blood and liver damage have not occurred. In therapeutic effec-

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² The writer wishes to thank Schering Corp., and W. Wesley Herndon, M.D., for clinical supplies of acetophenazine, and their many favors.

³ Darling, H. F. : *Am. J. Psychiat.*, 118 : 358, 1961.

tiveness it is satisfactory in ambulatory schizophrenics. As in psychoneurotics the dose needed seems to be lower than that

recommended by the manufacturer, and in many cases 10 mg. tablets rather than 20 mg. are needed.

THE TREATMENT OF NON-HOSPITALIZED SCHIZOPHRENICS

GEORGE WRIGHT M.D.¹

In view of the current shortage of mental health resources, it is important to seek all possible means to avoid overburdening the present facilities and staffs. With the introduction of the phenothiazine group of drugs dramatic improvement in the psychiatric inpatient population turnover became possible. That long term treatment with such drugs is necessary is evidenced by the findings of Judah, *et al.*(1). Within 5 months of sudden cessation of therapy under inpatient conditions, Judah found it necessary to reinstitute treatment in 65% of the patients in the disturbed ward and 54.5% of the "working" patients.

To avoid similar high relapse and readmission rates among patients released from hospitals, it is all the more important that the drug of choice should be one which will control the symptoms without impairing the patient's ability to function at home, and possibly even as a wage earner. The burden of the problem of supervision of such patients tends to fall upon the family physician, with only occasional supervision by trained psychiatrists. It is important that the chosen drug be effective in a dosage with minimal side effects.

Thioridazine (Mellaril²) has been shown to be effective in the treatment of schizophrenia(2, 3). Berzel(4), reporting the absence of extrapyramidal side effects with thioridazine, emphasized the danger of such complications in ambulatory patients as "a major stress on the patient and on his family."

Following their discharge from mental health clinics, Western State and Gailor Hospitals, 37 patients with an established diagnosis of schizophrenia have been followed during the past 12 months. The

group consisted of 28 females and 9 males with an age range of 15 to 47 years. These patients received doses ranging from 50 to 300 mgm. thioridazine a day, with an average of 150 mgm. given in divided doses on a t.i.d. basis. These patients have been followed by means of progress interviews on an average of once a month. At these sessions control of symptoms and occurrence of side effects have been carefully investigated. There has been very little patient-resistance to the drug, especially with reference to the complaint of feeling physically subdued.

Routine complete blood counts and urine urobilinogen tests performed after 6 months' study were all negative. There has been no clinical evidence of toxicity with the exception of 2 cases of drowsiness, which disappeared upon lowering the dose for a few days before resuming the average dose of 50 mgm. t.i.d. Two females have experienced amenorrhea. One patient has run out of tablets on two occasions and developed hallucinatory symptoms which rapidly responded to reinstitution of medication.

Thirty-six of the 37 patients in the study continue to be satisfactorily treated at home. All 36 patients are of some service at home, and several are wage earners. Only one has required rehospitalization.

Thioridazine in moderate dosage is useful in the treatment of schizophrenic patients, following discharge from hospital. It performs the two-fold purpose of controlling the symptomatology of schizophrenia with minimal side effects while allowing the patient's progress to be followed by a physician who has no specialized training in psychiatry.

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PROPHYLAXIS IN ALCOHOLICS IN THE WITHDRAWAL PERIOD

P. J. F. WALSH, M.B., D.P.M.¹

How dangerous are the convulsive seizures ("rum fits," "whisky fits") often seen in chronic alcoholics when alcohol is withdrawn? Though it has been tacitly assumed that they carry no greater risk than do convulsions in other conditions(1, 2), in some cases at least, this is not so. Elsewhere the author has described the sudden appearance of Korsakov's psychosis immediately after one or more convulsions in alcoholics who had in common a long period of very heavy drinking, signs of vitamin B deficiency and evidence of early mental deterioration, and he has suggested that the dementia may have been produced by excessive energy requirements exhausting supplies of B vitamins (especially thiamine) within cerebral neurones(3). The brain is known to need very large amounts of energy, which it obtains almost entirely by breaking down glucose through many intermediary products to carbon dioxide and water, releasing energy at each step. Vitamins of the B group act as essential co-enzymes in many of these reactions; the amount of energy produced is directly proportional to the amount of vitamins expended. During a convulsion the metabolic rate of the brain, and consequently the expenditure of B vitamins, increases up to fifty-fold. Irreparable damage is done if the metabolic processes in cerebral neurones are stopped for more than about five minutes.

Nutritional deficiencies are frequently seen in chronic alcoholics (for several reasons, of which relative and absolute dietary deficiencies are probably the most important), and it seems possible that in these patients convulsions may help to produce

the deterioration often seen in the later stages of the illness ("alcoholic deterioration"), even when the gross and obvious picture of Korsakov's psychosis or Wernicke's encephalopathy does not appear. Logically it would seem that specific measures should be taken to prevent convulsions in addition to correcting the vitamin deficiency, and for the last 8 years the author has given anticonvulsants as well as concentrated vitamin preparations as a routine (in addition to any other medicines) to all alcoholics admitted to his wards. The method used is as follows: 1. *Anticonvulsants*. A capsule containing phenytoin (Epanutin) gr. 1½ (100 mgms.) and phenobarbitone gr. ¼ (50 mgms.) is given t.i.d. for 7 days. The combination is less likely to lead to addiction (alcoholics frequently become addicted to other drugs besides alcohol), and has been shown to be more effective than either drug alone. Withdrawal fits usually occur within the first few days after alcohol has been stopped. 2. *Vitamins*. Large doses of a vitamin B complex are used, as suggested by Gould(4). An intramuscular injection of Parentrovite (high potency)² is given daily or b.i.d. for 5 to 10 days, after which a tablet of Orovite³ is given t.i.d. while the patient remains in hospital.

SUMMARY

Attention is drawn to the occasional appearance of Korsakov's psychosis immedi-

² Parentrovite (high potency) contains in each 7 ml. injection thiamine hydrochloride 250 mgms., riboflavin 4 mgms., pyridoxine hydrochloride 50 mgms., nicotinamide 160 mgms., calcium pantothenate 5 mgms., and ascorbic acid 500 mgms.

³ Orovite contains in each tablet thiamine hydrochloride 50 mgms., riboflavin 5 mgms., pyridoxine hydrochloride 5 mgms., nicotinamide 200 mgms., and ascorbic acid 100 mgms.

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ately after a convulsive seizure in chronic alcoholics and to the possibility that withdrawal fits may contribute to the dementia seen in some chronic alcoholics. The routine prophylactic use of anticonvulsants and B vitamins in the withdrawal period is advocated and described.

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DISCUSSION AND STUDY OF VERTEBRAL FRACTURES IN ELECTROCONVULSIVE THERAPY

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Newbury and Etter(16) surveyed literature relating to vertebral fractures in convulsive therapy. They pointed out the variability in incidence of reported fractures, even when x-rays of the spine were taken before and after treatment. For example, in 8 such studies on treatment with ECT the incidence of compression fractures in 999 cases ranged from 0 to 35.4%. Newbury and Etter cite the degree of active participation of the radiologist in reporting the findings as an important factor in determining the incidence of vertebral compression fractures. This would imply some variation in the radiologists' accuracy in finding such fractures, and, if true, highlights an already existing need to compare controlled variables.

In the majority of 25 references cited by Newbury and Etter in regard to compression fractures in convulsive therapy (their references 38, 39, and 46 were not available here) almost none utilized statistical methods and few compared selected variables. One study by Dewald, Margolis, and Weiner(2) was an exception in that selected variables were compared and statistical methods applied to the results. Thus they found a "highly significant" reduction in compression fractures by the use of muscle relaxants, confirming at least three earlier reports which did not utilize tests of statistical significance(4, 15, 19). It seems safe to conclude that the use of muscle relaxants, such as succinylcholine chloride (SCC),

does reduce the incidence of compression fractures to a significant degree.

Although hardly the first to do so, I have concerned myself with the need for statistical comparison of treatment methods used in psychiatry, and some of my earlier papers reflect this concern(8-13). In one such study where two randomly selected groups were compared, one treated with the "threshold" method of ECT(1, 7, 8) showed significantly fewer compression fractures when compared with the group treated by the "glissando" method(8). Although x-rays of the spine were taken only in patients who complained of pain—perhaps missing some compression fractures (2)—nevertheless both groups were treated identically except for the variable tested, so that the finding was felt to be valid. These patients had all been treated on a Guernsey cart, lying on a firm sponge rubber pad approximately 1½ inches thick with the mouth held closed and the arms lightly restrained by an assistant.

A colleague² later more or less suggested that the sponge rubber pad under the patient flattened with the initial "start" reaction(6) of the patient during ECT, allowing more "give" for hyperflexion of the spine, and increasing the likelihood of compression fracture in the "glissando" method.

Both methods, ECT modified by succinylcholine chloride and the "threshold" method, seem to result in significantly fewer vertebral compression fractures; the former is a more complicated procedure, while the latter is somewhat more difficult to give,

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looks to an observer as if it causes pain to the patient, and cannot be given with a simpler ECT apparatus. Accordingly it seemed practical to compare the effects of the surface on which the patient lies during the "glissando" method of ECT, surface being a variable which has not been statistically compared in previous studies on the incidence of compression fractures in ECT.

METHOD AND RESULTS

1. In a comparative study of ECT and chlorpromazine (Thorazine) in newly hospitalized schizophrenic women at Madison State Hospital (13), 42 patients were given ECT initially and 14 were given ECT after failing to respond to chlorpromazine. Of these 56 patients given ECT 43 (group X) had x-rays of the spine taken shortly after the 20th and final treatment. All 43 patients were given the "glissando" method of ECT while lying on a Guernsey cart. All conditions of treatment were the same as those in the study comparing "glissando" with "threshold" method of ECT mentioned above (8), except that instead of a sponge rubber pad, a thin woolen blanket folded to double thickness was placed under the patient on the metal surface of the Guernsey cart.

In order to have a more rigid comparison, only the 29 schizophrenic patients in the previous study (8) (group Y) were compared with group X. There was no significant difference in age between the two groups, X averaging 37.9 and Y 37.2 years. In group X there were no compression fractures, in group Y there were four—a statistically significant difference (Table 1).

2. During the study involving group X, another study comparing the efficacy of

ECT and phenelzine in depression was conducted (11). In this study 22 patients received ECT, of whom 14 had x-rays of the spine immediately after the completion of treatment (group Z). Both group X and group Z patients were treated at the same time in random order in exactly the same way using the "glissando" method with a folded blanket between the patient and the metal surface of the Guernsey cart. Aside from diagnosis, the only difference between groups X and Z was their age, group X averaging 37.9 years and group Z 55.4 years, a difference which is significant. Among the patients in group Z, 4, all over 60 years of age, had vertebral compression fractures.

This difference from group X in incidence of compression fractures is statistically significant (Table 1).

DISCUSSION

The results presented in part 1 indicate that the surface on which the patient lies during ECT is a variable influencing the probability of vertebral compression fracture. A surface which "gives" with the initial "start" reaction, such as a sponge rubber pad 1½ inches thick, apparently increases the likelihood of compression fracture to a significant degree. Since this variable remained uncontrolled and was often quite different—if even mentioned—among the studies referred to by Newbury and Etter (16), it may partly explain the wide variation in the incidence of compression fractures they cited.

In light of the findings reported in part 1, it is recommended that the patient be laid on a hard surface covered by a blanket two layers thick when ECT is given without modification by SCC. However, even when

TABLE 1
Effect of Varying Surface and Age on the Incidence of Spinal Compression Fractures in ECT

GROUP	AGE	SURFACE	VARIABLE TESTED	PATIENTS TREATED	SPINAL FRACTS.	(USING YATES' CORRECTION)	
						X ²	P
X	37.9	Rigid	("Control")	43	0	—	—
Y	37.2	Foam Rubber	Surface	29	4	(X, Y) 3.97	<.05
Z	55.4	Rigid	Age	14	4	(X, Z) 8.97	<.01

such a surface is used, among depressed patients over 60 there were 4 compression fractures, a significant difference from the younger schizophrenic patients in group X. Newbury and Etter point out that reports on the incidence of compression fractures following ECT and Metrazol therapy in relation to age are conflicting. However, some of the papers cited by Newbury and Etter showed a marked increase in compression fractures among patients over 55 (3) and 60 (14). Among four papers citing no correlation to age, the studies were made only on patients 18 to 52 (3), 21 to 60 (5), 20 to 60 (15), and 15 to 50 (18). In one study on ECT where 231 patients were treated without modification by muscle relaxants, 42 of the patients were 60 or over and did not show a greater incidence of compression fractures (2). It may be that using the rigid surface as reported above reduced the incidence of fractures in younger patients but not in the older patients. Accordingly it is recommended that such older patients who require ECT be given treatment by the "threshold" method or else treatment modified by the use of muscle relaxants, such as SCC, if compression fractures of the spine are to be kept at a minimum.

SUMMARY

No vertebral compression fractures occurred among 43 female schizophrenics treated by "glissando" ECT when they were laid on a rigid surface (group X). Four compression fractures occurred among a comparable group of patients treated on a sponge rubber pad 1½ inches thick. This difference is statistically significant. Among older female patients treated by ECT on a rigid surface, 4 compression fractures occurred—all in women over 60. This difference from group X is also statistically significant.

It is therefore recommended that older patients who require ECT be treated with the "threshold" method or else by modification with SCC in order to keep vertebral compression fractures at a minimum. Younger patients may be treated by the "glissando" method without modification by SCC with less likelihood of compression fractures provided that they are treated on a rigid surface.

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INDOKLON SYMPOSIUM IN NEW ORLEANS, MARCH 1962

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Hexafluorodiethyl ether (Indoklon) has been used as a pharmacological convulsant

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agent in psychiatry since the first application by Krantz, *et al.*, in September 1956. The drug was introduced at the time of the late honeymoon with the neuroleptic

agents and no major drug house had seriously undertaken to promote the clinical use of this convulsant agent. Nevertheless, a great many clinicians in the United States, Canada, England, France, Poland and Italy have independently continued psychiatric investigation of the compound. The Medical Research Foundation of Philadelphia decided to try to organize this research and set up a clearing house for various world-wide investigations in July 1958. Since that time, techniques have emerged in the laboratories of various psychiatric examiners including Kurland and his group in Baltimore, Kalinowsky and Impastato in the New York state hospital system, and Karliner and Padula at West Hill Sanitarium. Marshall, *et al.*, at Johns Hopkins have investigated its use as a potential agent in the diagnosis of epilepsy. Gunn of Toronto has started investigations as have Thigpen, *et al.*, at Augusta, Ga. Orth at Wisconsin has confirmed the extensive pharmacological work started by the Krantz group. Dolenz, *et al.*, at Tulane have started investigations of a serious nature.

In view of the sustained interest in this compound as a convulsant, and the many papers that have emerged showing its usefulness as an alternate treatment when ECT has been unsatisfactory, the Ohio Chemical Company has been persuaded to place this drug before the psychiatric world. With this in mind, the symposium was held in New Orleans on March 23rd, to which the important psychiatrists, neurologists, anesthesiologists, and pharmacologists concerned were invited. The meeting, in addition to recapitulating the history and pres-

ent status of Indoklon, emphasized the techniques which have been emerging slowly in the various laboratories. Both inhalation technique, developed by the anesthesiologists, and intravenous technique, widely adapted by various psychiatric research men, have been perfected and are available through the Ohio Chemical and Surgical Equipment Company agents.

The symposium brought out that in many cases, Indoklon therapy has been accepted by patients who were highly resistant to ECT. Perhaps, more importantly, the symposium established that Indoklon was apparently not just an alternate convulsive method to electroshock because, in some cases, patients who do not respond to electroshock respond to Indoklon, while in other cases, those who do not respond to Indoklon, respond to electroshock. This seems to open new avenues of evaluating convulsive therapy as a general psychiatric tool. The considered feeling of the entire symposium was that very little of the real nature of convulsive therapy has yet emerged in spite of its many years of clinical application.

It was the hope of the group that Indoklon would be another tool for the psychiatric world in its investigation and treatment of the total problem of mental illness.

The Medical Research Foundation of Philadelphia has prepared a film showing both inhalation and intravenous techniques of Indoklon therapy with psychiatric patients. This will soon be available in the United States and Canada.

REASON

Man has a great capacity for reasoning, but for the most part it is vain and false ; the animal has but little, but it is useful and true ; a little certainty is better than much falsehood.

—LEONARDO DA VINCI

CASE REPORTS

MANIA SEEN WITH UNDIAGNOSED CUSHING'S SYNDROME

FRANCIS J. KANE, JR., M.D., AND MARTIN H. KEELER, M.D.¹

The mental symptoms usually seen with Cushing's syndrome are those of a depressed state with paranoid and organic features(1, 2). Spontaneously occurring acute mania has not been reported before with Cushing's syndrome although mania has been seen with induced hypercortical states consequent to the use of cortisone and other compounds(3). The occurrence of mania and depression separated by a 6-year interval in an undiagnosed case of Cushing's syndrome seemed worthy of note.

B. H. was a 27-year-old white married mother of 4 children who on 12/16/55 had been admitted to the psychiatric center of North Carolina Memorial Hospital about one month after the delivery of her fourth child. She had a history of two weeks of disturbed behavior and mood, characterized by over-talkativeness, overactivity, inability to sleep and emotional swings from elation to depression. She weighed 224 pounds and had a labile hypertension (150/100). There were no signs of organicity. Prior to illness she was described as a friendly, outgoing person with a strong sense of duty, not usually given to overt expressions of anger. There was no previous history of mental illness in the patient or her family. She responded well to 8 EST treatments and was discharged. On 11/10/61 she was readmitted to the psychiatric center because of depressive symptoms of 3 months' duration. Descriptively, she showed depressed affect focused on her worsening health, suicidal ruminations, marked anorexia and marked disturbance of sleep with early morning awakening. There was no evidence of organic mental reaction. Niamid in doses of 150-300 mg. daily and supportive psychotherapy were given. Endocrinologic consultation revealed a Cushing's syndrome with virilizing features. Physical examination showed an obese (weight 240 pounds) female with moon-shaped facies, trunkal obesity, hirsutism of the face and body, male escutcheon, markedly enlarged clitoris,

purplish abdominal striae, and fat pad between the scapulae. She also had a secretion from her breasts. Amenorrhea had been present for 4 months. Blood pressure was 180/100. Metabolic studies including stimulation and depression tests of adrenocortical function were consistent with hyperfunction of the adrenal cortex. Exploratory laparotomy revealed enlarged, hyperplastic glands (weights 16 and 13 grams) which were removed completely. Follow-up studies, 3 months post-operatively, showed a weight loss of 40 pounds, loss of moon facies and hirsutism, and no deviation of mood. The patient expressed appropriate happiness over her change.

DISCUSSION

A manic reaction has not been reported before accompanying Cushing's syndrome. It has been reported in the artificially induced hypercortical states attendant upon the use of cortisone and related compounds. Use of these drugs is usually accompanied by a change of mood, most often in the direction of elevation(4). The evidence for the existence of Cushing's syndrome in this patient at the time of her manic reaction is inferential, since no specific studies were done at that time, but her clinical course seems consistent with the natural history of the illness(5). The time of onset (10-14 days postpartum) is in keeping with the usual periods before the hypercortical states mentioned above became clinically manifest. The onset of Cushing's syndrome has frequently been noted following pregnancy (6), and in several cases where the two have been associated, the Cushing's syndrome became more floridly manifest after the termination of a pregnancy(7). The changes seen in this patient after 3 of her 4 pregnancies have been similar (severe acne, weight gain, labile hypertension, change in menstrual cycle and flow, fatigue, and sensitivity to cold). Metabolic studies on these patients are rare, but the reported studies do not show significant hormonal

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variation in pregnancy(7). In addition to the chronic metabolic stresses, it is certain that the psychologic stress associated with pregnancy and with global changes in body image were probably significant in worsening the metabolic stress(8). The depressive reaction seen in this patient was unusual, since the usual signs of organic mental reaction were absent. This may reflect the absence of the disturbance in potassium metabolism and blood pH(9), since hers was primarily a virilizing endocrine disturbance.

SUMMARY

A case of mania associated with Cushing's syndrome is reported, the first such case reported. The infrequent incidence of mania with Cushing's syndrome may be related to the slowness of change usually seen with this illness which allows for development of compensating defensive processes, both psychologic and physiologic. Pregnancy, an

additional physiologic and psychologic stress, may have disrupted the patient's already precariously balanced adjustment.

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INSULIN COMA THERAPY OF A PATIENT WITH A QUESTIONABLE HELLER'S DISEASE

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There are rather controversial opinions concerning the diagnosis of Heller's disease: Ford(1) feels that dementia infantilis of Heller does exist. Malamud(2) comments that the designation of Heller's disease "not only has become a waste basket diagnosis for all sorts of organic brain disease, but, more important, it has been confused with childhood schizophrenia." De Jong(3) pointed out that in 1961 a girl was demonstrated in a neuropsychiatric conference, and the neuropathologist was able to demonstrate by slides and material from a brain biopsy that this patient, having been described as an autistic child, was suffering from brain damage seen in dementia infantilis and, therefore, was considered as having had organic disease of Heller's type.

Following is a description of a 13-year-

old boy, whose illness started at the age of 3½, and who at the age of 5 in 1953 was diagnosed at N.P.I. of the University of Michigan as "either brain damage or childhood schizophrenia," and in 1956 was seen at Mayo Clinic as "childhood schizophrenia." De Jong(4), who saw the patient in May, 1961, felt that "this boy might present the picture of Heller's disease."

G.A., born July 30, 1948, was admitted to a state hospital on April 10, 1957. The father's and mother's families showed considerable psychopathology.

There are 3 older siblings. A significant item was that one sister, when the patient was 3½, married and left the home. The patient's regression began shortly after that. He was of a full-term, normal, spontaneous delivery; walked at 1 year; began to talk and said some sentences at age 2. He was adequately toilet-trained, but after the sister left home began to regress and lost his toilet-training at age 4. He became preoccupied and withdrawn at the

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age of 5, showing primitive behavior, eating with his fingers, walking or running constantly and soiling. He was admitted to the state hospital in 1957 and immediately started on chlorpromazine, 100 mg. q.i.d. He spent some time in the custody of various adolescents in the male building and grew to the point where he would shake hands, but still failed to relate to people. In January of 1958, the most persistent and difficult symptom began: vomiting. It became so severe as to require transfer to the male hospital ward, restraints and tube feedings. The patient improved and was sent to another building, but once again began the vomiting. In May 1959, reserpine was used, but without results. Compazine and phenobarbital were then instituted. In August of 1959 the child was vomiting frequently and regularly, and if left alone would vomit repeatedly. His vomiting stopped during his sleep. He also became incontinent, and ate both his vomitus and feces if not prevented. In September of 1959, still considered as schizophrenic, the patient received 12 ESTs, showing no improvement and no change in his cycles of vomiting.

In the following year the patient's condition periodically improved until finally, in September of 1960, he lost ground physically until he weighed 35 pounds. The physical findings, including complete G.I. series, were negative. At 12, he had the appearance of a child 6 years old, without secondary hair growth and with the behavior of a lower primate. He vomited immediately after each food intake, then licked this material directly from the floor, vomiting again, and again eating the vomitus. At that time he was transferred to my service, and it became obvious that if nothing was done he would die from malnutrition. Since all other means had been exhausted, we de-

cided from the standpoint of aiding nutrition as well as the possibility of modifying the "schizophrenic process" with the complication of vomiting to place him on insulin shock therapy. From November 10, 1960, until April 17, 1961, the patient received 100 treatments with insulin given in the classical way, having had 50 comas. The average dose producing a coma was between 40 and 50 units of regular insulin. The termination of coma was managed by administration of dextrose by nasal tube or, depending on severity of coma, by I.V. Under this treatment the patient's vomiting became very rare and his condition improved markedly; his weight was reported as 61 pounds in May of 1961. Emotionally, not too much change was observed.

My last professional contact with him was in June, 1961. Recently I was told that he had regressed again, showing a weight of 35 pounds, vomiting and eating his vomitus. Although only autopsy, of course, can substantiate or refute the diagnosis, the clinical picture, course and poor response to various therapies lead me to believe that this is, most likely, a case of Heller's disease. Despite the question of diagnosis, the fact remains that insulin saved and prolonged his life, even though his mental condition did not change whatsoever.

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CONTROL OF ENURESIS WITH IMIPRAMINE

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Despite encouraging reports(1-3) indicating that the utilization of imipramine (Tofranil) in enuresis provides a simple and effective method of controlling this vexing and commonplace problem, this approach remains little used. The following case reports are offered as additional

evidence of the value of this compound and with the hope of stimulating further clinical trials, which, if current findings are confirmed, would result in widespread acceptance and consequent relief to the many sufferers from this condition.

1. Because of persistent enuresis, accompanied by compulsive eating and obesity, a 12½-year-old girl was referred for psycho-

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therapy. Surly, petulant and uncommunicative, she was deeply concerned with her enuresis but resistant toward psychotherapy. On her first visit, imipramine, 50 mg., was prescribed nightly. This resulted in immediate cessation of bed-wetting with eventual alleviation of her compulsive eating and obesity. Despite the formidable problem present on initial referral, the symptomatic control of this patient's enuresis permitted general improvement with minimal psychotherapy. Now, after being incontinent only once in an 8-month period, she uses the drug only sporadically, such as when visiting friends overnight.

2. Refractory enuresis and behavioral difficulties prompted the referral of a 9-year-old boy. The administration of 25 mg. imipramine nightly immediately relieved his enuresis, and this was associated with an improved social and scholastic adjustment. After 3 months of control with 25 and later 10 mg. per night, placebos were substituted on alternate nights to test the need for continuation of imipramine. After a few dry nights, enuresis recurred on the nights placebos were administered. At this point, regular administration of 10 mg. imipramine was resumed and has been continued for 2 additional months, during which enuresis has been absent.

3. While undergoing psychotherapy for a profound emotional disturbance, an 8-year-old boy with almost daily enuresis, was placed on imipramine 25 mg. nightly. This has resulted in relief of the enuresis over a period of 2 months, but has had absolutely no influence on the other components of the disturbance.

The mode of action of imipramine in control of enuresis is not clearly understood. It is difficult to ascribe its effect to reduced bladder tone and irritability secondary to its anti-cholinergic action inasmuch as its enuresis relieving capacity is not shared by other compounds with comparable anti-cholinergic properties. It is unlikely that its success is a function of psychotherapy

or due to a "conditioning" process in that relief is obtained almost with the first dose and relapse occurs almost invariably with cessation of treatment. Double-blind trials utilizing placebos are lacking, but the poor response to previous therapies as opposed to the almost uniformly favorable response to imipramine argues strongly against the role of suggestion.

Although the influence of psychotherapy is apparently negligible in relieving enuresis, the removal of this distressing symptom promotes important changes in the psychotherapeutic process. Relief of this symptom is accompanied by reduction of attendant anxiety, frustration, helplessness, lack of confidence, and social ostracism. In those cases where enuresis occasions a power struggle between parent and child, with aggression and reprisal, control and rebellion, bribes and punishment, the whole structure of the battle melts away when the pivotal issue vanishes. In other cases in which enuresis is only a minor item amidst severe psychopathology, its relief contributes but little to the ultimate therapeutic outcome which must be reached by prolonged and painstaking psychotherapy.

SUMMARY

Case material presented indicates that imipramine provides a simple and effective method for the control of enuresis. On the basis of this and other reports, further clinical trials are warranted.

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HISTORICAL NOTE

DESCRIPTION OF A PSYCHOTIC REACTION IN 11TH CENTURY JAPAN

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Books available in English on the history of psychiatry essentially stop at the Near East. Particularly lacking are direct references to mental disorders in early Japan. The great Japanese classic, *Genji Monogatari* (The Story of Genji), written by Murasaki Shikibu(2) during the first decade of the 11th century helps fill this historical gap by providing a primary source of data on deviant behavior among the ladies and gentlemen of the royal court. Of special interest is the gifted author's perceptive description of a psychotic reaction in a young married woman. The diagnosis of a fictional person in a novel, even when the character is presumed drawn from life, is admittedly hazardous. However, the case study reported by Murasaki has many features in common with contemporary concepts of schizophrenia. The striking resemblance to present day patients may be interpreted as additional evidence of the timelessness and ubiquity(1) of schizophrenia.

Age: At the time of her entrance in the novel, the patient had a daughter, 12 years of age, and two younger sons. It is mentioned that her illness had started several years before and her behavior had been getting progressively more peculiar and unpredictable. For some time she had stopped living with her husband as a wife in the ordinary sense of the word and had been unable to manage the household. The husband had concluded that her illness was permanent and going from bad to worse. He therefore felt justified in bringing a younger woman into the home as a mistress and homemaker. Age of onset may thus be placed in the 20's.

Temperament and Body Build: Patient was described as being by nature "very quiet and even-tempered." She seemed at times more like

a child on its best behavior than a full grown woman. She was "very lightly built." Her constant illness had accentuated her thinness and she gave an impression of "almost inconceivable fragility." She is pictured as a "pale phantom flickering across a winter night."

Slovenliness and Neglect of Personal Hygiene: In keeping with the high standards of neatness and cleanliness of the court ladies of that era, the patient had previously been tidy and well groomed. Now her hair was in a "hopeless tangle and pitifully bedraggled." Although there were many servants in the household, she allowed no one to come near her and "her room had fallen into an indescribable state of filth and disorder." On his rare visits to her quarters, the husband was appalled at the "slaternly scene that lay before him."

Impulsive, Irrational, Unpredictable Behavior: Periodically she was "desperately violent." At times she wept quietly by herself, imagining (without cause) that her husband was speaking ill of her father. For days she lay stretched out motionless upon her bed in a state of complete exhaustion. At times she "seemed barely conscious of what was going on around her." In accord with the modern concept of ambivalence, she was described as "perverse" in that her frenzy drove her to play the most "unaccountable and repulsive tricks—precisely on those whom she most wished to please." An excellent illustration is reported: the husband had caught her in a lucid moment and had taken advantage of this to discuss in a rational, reassuring manner the fact that her illness necessitated bringing another woman into the home but that he would always provide for her, look after her, and treat her kindly. The wife seemed to understand and accept the situation sensibly. When the husband started to dress for his evening visit with the other woman, she helped by scenting with perfume (as was the custom) his great riding cloak. But as he was about to put on the coat she suddenly leapt up, seized a large charcoal brazier that was used for drying damp clothes and, coming up behind, emptied it over his head.

Irresponsibility and Lack of Concern: The

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servants who had witnessed the above scene were terrified that the husband would "not understand"; if he thought that she was in possession of her senses and had deliberately covered him with embers and ashes he might leave her. The husband realized that it was impossible to hold her responsible; he did not blame her. Nonetheless he was angered by the look of "complete unconcern with which she surveyed the havoc she had just created." He controlled himself and, acting much as a contemporary husband would do in a similar situation, he sent out for professional help. Priests were called in to exorcise the mad woman who by the time they arrived was "cursing and raving in the most horrifying manner." After being pulled about and cudgelled by the priests for several hours, she became somewhat quieter, but next day she was still distracted and continued to rave in an unabating frenzy. Fearful that she might attempt to disfigure him or play some other sinister prank, the husband stayed out of her way for the next several days.

Explanation of Mental Illness : Reflecting

the popular belief of that era, the author of *Genji* makes casual mention of the patient being "possessed." But she has the husband explain to the wife the true nature of her illness in terms that have a modern ring.

"This continual state of grievance and jealousy in which you now live is simply due to your abandoning yourself unresistingly, morbidly to wild dreams and imaginings."

Further evidence of advanced understanding is indicated by the statement:

"He [the husband] who knew her as she ought to be could realize that her present savagery and malice were merely the result of her illness but a stranger would be terrified and disgusted."

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UTOPIA

All thoughtful men agree that the present aspect of society is portentous of great changes. The only question is, whether they will be for the better or the worse. Those who believe in man's essential nobleness lean to the former view, those who believe in his essential baseness to the latter. For my part, I hold to the former opinion. *Looking Backward* was written in the belief that the Golden Age lies before us and not behind us, and is not far away. Our children will surely see it, and we, too, who are already men and women, if we deserve it by our faith and by our works.

—EDWARD BELLAMY (1888)

COMMENTS

PSYCHIATRIC IMPLICATIONS OF THE EDDINGTON LECTURE

In a 60-page booklet, reporting the fourteenth Eddington Memorial Lecture, W. H. Thorpe¹ discusses so many subjects fundamental to psychiatry that this reviewer urges everyone to read it. Prof. Thorpe is a great teacher and the author of a remarkable book on *Learning and Instinct in Animals*. He gives us new insights and tells us of his beliefs. He is known as an ethnologist, but one reads between the lines that he likes the old term "natural scientist" and would not be averse to being hailed as a great natural philosopher.

Perhaps it is significant that his official titles are "University Reader in Animal Behaviour and Fellow of Jesus College, Cambridge." Where else in the world could a natural philosopher so prosper? He gives us of his wisdom and tells us of his scientific activity and the rigorous rules that surround such research. He adds (p. 55) "But we must never allow ourselves to forget that all this activity is based first and last and all the time upon a creative imagination akin to that of the artist and mystic and that without this basis the scientific method cannot even start." And again (p. 57) "I see science as a supremely religious activity but clearly incomplete in itself. I see also the absolute necessity for belief in a spiritual world which is interpenetrating with and yet transcending what we see as the material world." And finally (p. 59) "The scientific vision must be followed wherever it leads, and the only sin against the Holy Ghost is a refusal to follow the still small voice of the scientific conscience."

Such words may surprise some scientists, but if they will but read this lecture through, and understand what Thorpe means by such words as mental, aesthetic, moral, and religious, they will see that he has made a remarkably satisfying synthesis. Many scientists have tried to make a syn-

thesis, a philosophy of life, but none has done it better, except perhaps Pierre Teilhard de Chardin in his *Phenomenon of Man*. But he took 300 pages to do it. At times Father Teilhard showed so much creative imagination that his expositions became bafflingly mystical, but he was a convinced monist, and in this differed from Thorpe who seems to accept dualism in the Sherringtonian sense. Thorpe concludes (p. 28) that the brain and the mind are continually interacting. I see nothing special, nothing unique about this. All organs of the body, and the products of their function, are continually interacting. But what is unique about the mind Thorpe states beautifully on page 16:

For me, the essential fact is that, however much or little I know of the world around me, I know my own mind at first hand and—in a sense—better than I know anything. It is my mind which experiences and interprets all that my sense organs supply, and the whole of science and every other activity of man is ultimately dependent on this basic assumption that the mind is primary in knowing. From this it follows, I believe, that mind and body are in some sense two things and that there is an external world "not-I" which is a reality, however imperfect my awareness of it may be.

I agree heartily with the first part: that I know my own mind, better than I know anything; and that the mind is primary in knowing. But I do not believe that from this it follows that mind and body are two things. Mind, I believe, is the product of the living brain in action; it is the active relationship of one neuronal aggregation with others; it is the integrative function of the central nervous system. It can no more be separated from brain than contraction can be separated from muscle, or than circulation can be separated from heart and blood vessels.

I agree that there is an external world, "not-I." It is a fact that the external world is there, even if I am not there to perceive

¹ W. H. Thorpe: *Biology, Psychology, and Belief*. Cambridge, England: Cambridge University Press, 1961.

it. According to the state of functioning of my central nervous system (that is to say, according to my state of mind) I perceive much or little of this reality, accurately or erroneously. Certainly there is the integrated personality called "I" and the external "not-I," but this fact has no pertinence to the relationship of mind to body. Taking it up here is simply changing the subject.

Of course we can classify phenomena and arrange our list so that "mind and matter are in different categories" (p. 17). But that is not an argument against the monistic point of view. Neither do I see why it raises "the problem of how to explain the interaction of each on the other." To return to my (probably too naive) analogy with contraction and muscle, I see no problem raised by thinking of the function "contraction" as a necessary and inseparable part of the living organ we call "muscle." To me "mind" and "brain" have a similar relationship. Just because the brain is an enormously complex organ, I do not have to bring in metaphysical and supernatural concepts. The philosophical principles remain the same.

Thorpe quotes and apparently admires Father Teilhard's philosophy, but he does not accept his monism. He turns rather to Sir John Eccles who believes in a *liaison* between body and mind, "that liaison with mind occurs only in special states of the matter-energy system of the cerebral cortex." Sir John apparently assumes a special property that makes this liaison possible. He points out that "it is not the nerve network itself which is in liaison with mind, but the activity of the network." Why is it not better to drop the vague concept of "liaison," and state simply: *It is not the nerve network itself which is mind, but the activity of the network?*

Eccles and Thorpe seem to consider "consciousness" and "mind" as practically synonymous terms. They cite experiments where loss of consciousness is equated with cessation of mind (p. 20, *et seq.*). In order to keep my thinking clear, it seems to me better to define *mind* as a more general function, one which includes consciousness. I would then define consciousness as that part of mind which is related to awareness of ourselves and our environment. In other

words, that part of the function of the brain which is available for introspection and apperception. From the evolutionary standpoint consciousness (thus defined) is of much later development than mind. Teilhard goes to the logical extreme of believing that *mind* is to be found in the orderliness of mineral evolution, before life appeared on earth, and that "reflective self-consciousness" developed only when man appeared, in the last few units of geological time. This development of a "reflective self-consciousness" is for Teilhard as great an evolutionary step as the development of life itself, and *mind* in this sense probably evolved in our ancestors about a million years ago. This is the part of mind most easily put out of action by drugs, anoxia and other interferences with normal metabolism. Mind and consciousness are, in all probability, made possible by the complex neuronal patterns of the cerebral cortex and the upper brainstem. In other words, they are to a certain degree physiologically localizable. Consciousness, in the sense of simple awareness, is probably found at much lower levels of the central nervous system. The innumerable functions of the brain that go on without reaching consciousness are of basic importance for life.

When Thorpe takes up the discussion of "The Minds of Animals and Men" (p. 28) he is in a field where his knowledge is encyclopedic, and his skill at clear exposition is pre-eminent. He apparently used the word *mind* to mean Teilhard's "reflective self-consciousness" or what I would call "discriminative consciousness." But this is only a matter of definition. Anyway, it is the essential thing that man has in such great measure and other animals, even the brightest, have in such small degree. He points out that recent studies of animals show strong evidence that they have a conscious affective life, but he sees no reason to believe that the behavior of lower organism, though purposive, involves conscious striving. Animals have some degree of cognition; ideation has been demonstrated, for example, a "prelinguistic number sense" that has been demonstrated in birds. In short "the difference between the mind of animals and men seems to be one of degree—the degree of abstraction that can be

achieved—rather than one of kind.” Animals excel in perception, curiosity, and exploration; they have the ability to form concepts and some show artistic activity; they can even possess a sort of faith and sometimes exhibit altruistic behavior. The main difference seems to be that man is able to free the symbol from the object so that it may be manipulated as part of an intellectual world. But even this is a matter of degree.

The last section of the book is entitled “A Biologist’s View of Man’s Nature.” Here the lecturer comes to a discussion of the relation of science, philosophy, and mysticism. He refers to sources familiar to few psychiatrists, and this reviewer believes that

most of us could benefit by extending our reading in this direction. Certainly the recent advances in biology tend to blur the lines between the ancient disciplines. Let me close with one of Thorpe’s pregnant sentences :

Although I do not of course believe that man is an animal and nothing more, yet I see the evolutionary process as the *sine qua non* of his creation in all its aspects; and where I seem to see sharp distinctions I am inclined to attribute them provisionally to the category-making activities of the mind of the biologist or philosopher concerned and to doubt whether they have their counterpart in the real world.
S. C.

FIRST CONGRESS ON MENTAL ILLNESS AND HEALTH

At the regular annual meeting of the American Medical Association, held at Chicago from June 25 to 28, announcement was made by the Council on Mental Health that the first Congress on Mental Illness and Health would be held on October 4, 5 and 6 at the Palmer House in Chicago. This is the initial Congress of its kind held by the American Medical Association, and is an important historical first. Additional significance is that the entire rank and file of the medical profession, namely, 186,000 members of the American Medical Association,

as well as the 13,000 members of the American Psychiatric Association, will now be asked to turn their attention to all those things in medical practice which relate to mental health and illness. Almost everyone will agree there is a significant segment of psychiatry which is really psychiatric medicine in a large sense, much of which can be handled in the future by all physicians, specialists, non-specialists, as well as by psychiatrists. In addition, the linking of the medical profession with allied professional personnel of other fields may benefit the efforts of all. The painstaking work of the members of the American Psychiatric Association and the joining together of many organizations in the studies of the Joint Commission on Mental Illness and Health now result in further progress and endeavor to secure the best and the most for the psychiatric patient.¹

¹ A summary of the Congress program appeared in the July 7 issue of the *Journal of the AMA*. A full text will be available on request to Lauren H. Smith, M.D., Chairman, AMA Council on Mental Health and of AMA-APA Liaison Committee for the Congress on Mental Illness and Health. For registration and hotel reservation write to Walter Wolman, Ph.D., Director, Dept. of Mental Health, AMA, 535 North Dearborn St., Chicago 10, Ill.

Lauren H. Smith, M.D.

SPECIAL REPORTS

THE FIRST PAN-AFRICAN PSYCHIATRIC CONFERENCE

ALEXANDER H. LEIGHTON, M.D., AND DOROTHEA C. LEIGHTON, M.D.¹

Called by Dr. T. Adeoye Lambo, a Conference was held at the Neuro-Psychiatric Centre, Aro Hospital, Abeokuta, Nigeria, Nov. 12-18, 1961. Its purpose was to advance the development of psychiatry in Africa through exchange of research ideas and discussion of service, training and prevention programs. The hundred members of the Conference (psychiatrists, neurologists, internists, pathologists, nurses, social workers and educators) were from all over Africa, as well as from Europe and America. The geographic span was from Mauritius to Vancouver.

The atmosphere at this meeting in the tropics near the Gulf of Guinea was one of quiet endeavor toward cooperation among professionals of different countries. Its setting, the Aro Hospital compound, occupies a square mile in the jungle about five miles from the city of Abeokuta. We were told that, being on the site of battles of the Dahomean wars a century ago, human skulls and long bones still turn up on the hospital farm and in the excavations for buildings. The Conference was an expression of man's persistent capacity for constructive effort, sitting on these precipitates of old battles, and under the shadow of new wars in a quaking continent and troubled world.

In outlining the goals of the Conference the convener, Dr. Lambo, said:

The years 1950-60 have seen amazing changes in the social, cultural and political life of Africa. Concomitant with these changes are the growth of factories, cities and towns, the rise of large business corporations, of trade unions, of new Government concerns and projects, and new problems in human relations, from the family and tribe at one end of the scale to international politics at the other.

What have these changes in our traditions

and human values done to Africa's human beings? Would it not be a good idea to do a little accounting in human value terms and, on that basis, to discuss together our national plans, our fears and hopes for the future? Might not a conference in which men of "action" and men of "thought" are brought together for common consultation on current problems lead not only to valuable discussion but also to practical results in terms of a new awareness, new experiment, new research which may be of benefit to mankind?

There has never been a time when so many ideas and methods were employed in different parts of the world in the service of mental health as is the case today. They are working concomitantly, but, unfortunately, too independently of each other. For example, our practice in Nigeria, from considerations both of experiment and expediency, has been increasingly towards putting the patients into the centre of the community. Thus in 1954 the "Village System" was instituted and this has remained as a major part of our operational study to assess the functional efficiency and the acceptability of a service.

From such an environment as the village we have been able to collect valuable clinical data and other facts of observation. Consequently, such an approach to our problem has demonstrated that it is by no means inconsistent with scientific aims, and inasmuch as it reveals the more subtle phases of the problem it may even (as it has done in our case) contribute indispensable elements to a complete description of reality. This Conference, therefore, is an effort to present a rounded picture of psychiatry in Africa—indicating its past development, its present impact on society, its future potentialities. In Africa, in particular, we are concerned with the humanistic aspect of medicine—that is, its relationship to those working in it and, more especially, those for whom its aims are designed, namely, the community at large.

At the formal opening of the Conference on Sunday afternoon, addresses were made by Dr. M. A. Majekodunmi, the Honorable Minister of Health, Federal Government of

¹ The New York Hospital, 525 East 68th Street, New York 21, N. Y.

Nigeria and other distinguished Nigerian health officers and officials of University College and University College Hospital, Ibadan. The speakers referred to the conference as a unique event in the medical history of Africa, and outlined some of the problems of modern Nigeria: the pace and character of change, the loss of tradition and custom, social maladaptation, and the existence of widespread endemic and epidemic disease. They also spoke of the multiplied hospitals and other facilities in the last decade and of plans to expand services and educational resources, to teach psychiatry to general practitioners, to do research, to promote positive mental health, and to study the traditional methods of treatment in African cultures regarding the possibility of cooperation with native healers as a means of reaching larger numbers of people with more effective treatment.

Principal K. Dike announced that University College would establish a Chair in Psychiatry during 1962 with Dr. Lambo as the first professor.

Under the chairmanship of Dr. Alexander H. Leighton the scientific sessions began on Monday morning with an inaugural address by Sir Aubrey Lewis, who extended formal greetings to the Conference from the World Health Organization. He pointed out some of the central problems of psychiatry in areas undergoing rapid change. Treating patients, training staff, and research being the three indispensable it is unwise, under the pressure of the urgent, to sacrifice any one of these for the sake of the others. Dr. Lewis said that rapid development and change do not necessarily lead to troubles, and it is necessary to try to discover and combat disturbing factors. One important requirement is the blending of the old and the new, of carrying over from traditional culture that which can have a positive force in modern life. Balance and synthesis, he said, are key concepts and he hoped that the social sciences would be given a high place in the transitional psychiatric planning.

Dr. J. R. Reese, retired Director of the World Federation of Mental Health, in his response, pointed out that most of the African psychiatrists present, *i.e.*, most of the psychiatrists in Africa, had received

their training from Sir Aubrey.

Considerable time was devoted to a series of papers on the problems of children, including studies of urbanization and delinquency, traditional child rearing practices among the Yoruba, clinical and laboratory research on diet, growth, protein deficiency, infections, *etc.*, by both African and European speakers.

Tuesday morning was concerned with neurology. The papers ranged from broad coverage of the field to several that were highly specific. Thus, we heard about modern trends in neurology, important areas for research in tropical neurology, epilepsies in Central Africa, tropical endemic neuropathies, the meningitides, and patterns of neurological disease as these are seen at University College Hospital in Ibadan. Overall it was evident that epilepsies and brain infection and their sequelae constitute major problems in Africa.

On Tuesday afternoon the topic was pharmacology. Papers were presented on the application and misapplication of psychotherapeutic drugs, on pharmacologic symptom complexes, on drugs and the depressive state, and on the need for studies to determine whether Africans react differently from Europeans to modern drugs. There was some lively discussion of the relative merits of drugs, electroshock, psychotherapy, and milieu therapy. Most speakers, however, felt that in the expanding health programs of newly developing countries drugs are of paramount importance.

On Wednesday and Thursday mornings, several papers of broad and general interest dealt with the definition of mental health, the nature of mental health in Africa, and the relationship of literacy to cultural development and to psychiatric disorder.

Following this came a series of papers on psychiatric epidemiology. After a general review of the ecology of disease in Nigeria, there was a report on the Cornell-Aro survey of psychiatric disorder in a sample of the population in the Abeokuta area, a paper on methods in epidemiological research, and a study of suicide trends in Western Nigeria.

On Friday was a general session with papers on a variety of topics including reports on depressive conditions in Dakar, the status

of psychiatry in Basutoland, the problem of urbanization in Johannesburg, traditional medicine and modern treatment in the Sudan, some general points about the place of the native healer, mental health trends and problems in Uganda, developing services in Kenya, and prospects for the future of psychiatry in Africa.

A further interesting series of reports concerned training and related topics. These included general trends in nursing education in Nigeria, the training of health personnel in mental health principles, the influence of cultural factors on nursing in Nigeria, problems of training for the integration of mental health and general health in Africa and Europe, the nature of training programs, and community treatment of mental illness.

On Friday evening Dr. E. L. Margetts (Vancouver) chaired a meeting on mental health services in Africa. Out of this came the formation of a new organization, "The Association of Psychiatrists Working in Africa."

During the week of this historic Conference many international figures in Africa and from Continental Europe, Britain, Canada and the United States built a program of great range and significance and which will serve as a blueprint for future development. It is expected that the

proceedings will be published shortly in the *West African Medical Journal*.

The members of the Conference had opportunity to visit the Aro Hospital and the Aro village where the system of patient care in a community setting is in operation; also to visit other native villages and note the contrasts in the cities of Abeokuta and Lagos.

A number of the members, selected so as to be representatives of different countries, had the privilege of meeting Sir Abubakar Tafawa Balewa, Prime Minister of the Federation of Nigeria. The interview lasted about an hour and the Prime Minister asked many questions regarding the field of psychiatry and its possible significance in the development of Nigeria.

In concluding this report, it is appropriate to say that the members of the Conference are exceedingly grateful to the Secretariat for the efficiency and thoughtfulness evident in the arrangements, and to our hosts for their warm hospitality. Especially memorable were the luncheon given by Dr. M. A. Majekodunmi, the Honorable Federal Minister of Health, a reception and cocktail party given by Dr. and Mrs. Lambo, and a farewell party given by Chief J. O. Osuntokun, the Honorable Minister of Health and Social Welfare of the Western Region.

BY ANY OTHER NAME

We cannot expect the Americans to jump from capitalism to communism, but we can assist their elected leaders in giving Americans small doses of socialism, until they suddenly awake to find they have communism.

—NIKITA KHRUSHCHEV

NEWS AND NOTES

HONOR TO PROFESSOR KAHN.—At the time of the fall convocation of Baylor University College of Medicine, Houston, Texas, September 14, 1962, a tribute will be paid to Doctor Eugen Kahn, the first Director of the Institute of Human Relations at Yale University, established in 1930, and since 1953 professor at Baylor. The September 14th ceremony honors the seventy-fifth birthday of Baylor's senior professor.

The tribute takes the form of a plaque with an inscription and a portrait of Dr. Kahn in bronze. The Eugen Kahn Medal has also been provided and will be awarded to the Resident in Psychiatry who has attained the highest standard in his work at the College of Medicine of Baylor University.

A scroll bearing the following words will be presented to Dr. Kahn :

"In recognition of your contributions and years of devoted service to Psychiatry, for your human wisdom and for the example you have set for the younger generation, we have established *THE EUGEN KAHN AWARD* to be given annually to the Resident in Psychiatry at Baylor University College of Medicine who achieves the highest standard of excellence in scholarship and service.

"By the establishment of this award, your friends and colleagues express and declare their high regard and affection for you."

COMMON NAMES FOR DRUGS.—In his recent Message on Protecting the Consumer Interest, President Kennedy spoke of the need to give drugs simple, common names and implied that, if this were done, the consumer would pay less for his medicines.

Actually, drugs are given common names at present, and every effort is made to make them simple. But there is little or no reason to think that prescribing drugs by their common names instead of brand names will result in lower drug prices. Moreover, there is substantial evidence that the general use of common names would almost certainly bring about a dangerous compromise in the quality of our medicines.

From the Presidents' statement, the consumer might easily assume two things—that no efforts are made to give drugs simple, common names in addition to their brand names and that, if this were done, drug prices would be lower. Both assumptions would be incorrect.

At present, the common names of drugs are decided by a well-thought-out system in which a number of scientific agencies, both national and international, participate. It is absolutely essential that the name adhere to basic principles of scientific nomenclature. If not, the names will be meaningless to the medical profession and to scientists generally. Usually the common name reflects the chemical make-up of the drug; and since the chemical name is often long and complicated, the common name may have to be far from simple. No one has suggested a way to avoid this difficulty.

Government pressure on the medical profession to prescribe medicines under their common names instead of their brand names is based on the theory that different versions of the same drug, produced by different companies, are of equal quality. *It would be hard to find a more dangerous fallacy.*

Several studies of the subject have revealed that two drugs having the same active ingredients may affect patients in different ways. "Indiscriminate changing of brands may actually become a life or death matter," according to Dr. Eino Nelson, of the University of California Medical Center of San Francisco.

SCHIZOPHRENIA RESEARCH SUPPORTED BY SCOTTISH RITE FREEMASONRY.—During the past 27 years through the National Association for Mental Health the 33rd Degree Scottish Rite Freemasonry, U. S. A., Northern jurisdiction, has made grants toward investigating the nature and causes of this the most prevalent of all mental diseases.

The research grants approved in 1961 amounted to \$124,500 for 26 separate projects and 11 student stipends. This brings the total amount contributed to date by the

Scottish Rite to schizophrenia studies to more than \$1,750,000.

ASSOCIATION FOR THE ADVANCEMENT OF PSYCHOANALYSIS.—Officers elected at annual meeting, April 26, 1962, for 1962-63: President: Jack L. Rubins, M.D.; Vice-President: Joseph Zimmerman, M.D.; Secretary: Melvin Boigon, M.D.; Treasurer: Albert L. Deutsch, M.D.; and Councillor: Frederick A. Weiss, M.D.

NORTH PACIFIC SOCIETY OF NEUROLOGY AND PSYCHIATRY.—The annual meeting of the Society was held in Portland, Ore., on April 5-7, 1962. The following officers will serve for the year 1962-1963: President: Robert M. Rankin, M.D.; President-elect: R. L. Whitman, M.D.; Secretary-Treasurer: Thomas H. Holmes, M.D.; Past-President: Robert S. Dow, M.D.; Executive Committee: Edward K. Kloos, M.D.; Wallace Lindahl, M.D.; Henry C. Zeldowicz, M.D.

NORTHERN INDIANA PSYCHIATRIC SOCIETY.—The following are new officers elected to the Society for the year 1962-63: President: John U. Keating, M.D.; President-elect: Theodore A. Hill, M.D.; Vice-president: August J. Dian, M.D.; Treasurer: Richard L. Shriner, M.D.; Secretary: Hans Meyer, M.D.; Counselor: H. E. Salsburg, M.D.; Delegate: Grant E. Metcalfe, M.D.; Alternate Delegate: Theodore A. Hill, M.D.; and Newsletter: Hans Meyer, M.D.

DR. HASSAN AZIMA.—Dr. Azima, Associate Professor of Psychiatry at McGill University and an Associate Psychiatrist at the Royal Victoria Hospital, and a member of the staff of the Allan Memorial Institute of Psychiatry, died at the Royal Victoria Hospital June 25, 1962. His career has been brilliant and for a man 39 years old, his accomplishments have been distinguished.

Born in Tehran, Iran in 1922, he took his Bachelor of Arts at the University of California and his M.D. at the University

of Kansas in 1948. He obtained the Diploma in Psychiatry at the University of Paris in 1953, and then at McGill University he received both a Diploma in Psychiatry and later his M.Sc. in Psychiatry.

In Paris, in the very beginning he was profoundly interested in the philosophical premises of psychiatry. With Jean Delay, he wrote on Homeostasis in Schizophrenia, and published papers dealing with Consciousness and the Body Scheme in States of Sensory Limitation. He took note of the rapidly emerging field of psychopharmacology and at McGill he founded one of the earliest sections in psychopharmacology.

He had an adventurous and inquiring mind and there appeared many reports of special journeys into other fields: occupational therapy, neurophysiology, and anacitic therapy. Because of his scholarly studies, he was in great demand. He contributed to research projects and no less than eight books contain chapters which he wrote. At the time of his death he was preparing large scale research into regression and the understanding of interpretation.

Dr. Azima's work was an inspiration to his colleagues, and his courage during the final stages of his illness won the admiration of all who knew him.

QUACKERY.—The American Medical Association published recently a 15-page booklet titled "Beware of 'Health' Quacks." This booklet is based to a great extent on papers read at the First National Congress on Medical Quackery, co-sponsored last fall by the A.M.A. and the Food and Drug Administration. It may be obtained by writing to the A.M.A. Dept. of Investigation, 535 N. Dearborn, Chicago 10, Ill., for 5¢ per copy.

SOCIETY FOR PSYCHOPHYSIOLOGICAL RESEARCH.—The annual meeting of the Society will be held October 13-14, 1962, at Cherry Creek Inn, 600 South Colorado Boulevard, Denver, Colo.

Scientists working in areas related to psychophysiology are invited. Obtain reservations by writing Dr. Sydney G. Margolin, Director, Dept. of Psychophysiology, Uni-

versity of Colorado, School of Medicine, Denver 20, Colo. Rooms are single at \$10.00 and double at \$14.00.

MEDICAL HYPNOSIS.—A graduate course in medical hypnosis will be given for physicians and dentists by the University of Pennsylvania Graduate School in Medicine. It will be a 6-month course beginning October 13, 1962. Sessions will be held at the Institute of the Pennsylvania Hospital, 11 North 49th Street, Philadelphia.

Dr. Lauren H. Smith, Professor of Psychiatry and Chairman of the American Medical Association on Mental Health, will head the teaching staff.

AMERICAN PSYCHOSOMATIC SOCIETY.—The 20th annual meeting of the Society will be held at Chalfonte-Haddon Hall in Atlantic City on April 27 and 28, 1963.

The Program Committee invites interested persons both to attend the meeting and to submit abstracts of original work for consideration for presentation. Accepted abstracts will be printed and circulated to the membership prior to the meeting, and will be available at a minimal price at the meeting itself.

Abstracts should be submitted, in 10 copies, by December 1, 1962. Please address the Chairman, Julius B. Richmond, M.D., at 265 Nassau Rd., Roosevelt, N. Y.

DIRECTORY OF PSYCHIATRIC SERVICES.—The New York City Community Mental Health Board published recently a 20-page, pocket-sized directory, titled "Psychiatric Services for Residents of New York 1962." The booklet gives the name, address, telephone number, and other appropriate information of over 180 governmental, voluntary and proprietary hospitals and clinics offering psychiatric services to residents of New York. This reference book is available without charge from the New York City Community Mental Health Board, 93 Worth Street, New York 13, N. Y.

SOUTHERN PSYCHIATRIC ASSOCIATION.—The Council met in Toronto last month.

Ham Ford, Chairman of the Program Committee, and Ivan Bruce, Chairman of the Arrangements Committee, were there. We are all used to Texas tall tales, but the scientific program and the entertainment promise to be at least as stimulating and enjoyable as ever. The annual meeting will be at the Galvez Hotel in Galveston October 7-9. President Harris and his committees are bent on making the meeting a whopping success. It is not too soon to make reservations directly with the hotel.

It was tragic news that Dr. John W. Bick of New Orleans died April 20 of a coronary. He will be greatly missed.

The Board of Regents, who constitute the Membership Committee, insist that membership applications be made on the new forms which were instituted several years ago. If new members are to be recommended and the newer application blanks are not on hand, please write to the Secretary for them.

At the Council Meeting there was some discussion about the Constitution and By-Laws and possible need for more changes.

Sullivan G. Bedell, M.D.,

Secretary-Treasurer.

THE AMERICAN NEUROLOGICAL ASSOCIATION.—The 87th annual meeting of the Association was held in Atlantic City, N. J. June 18-20, 1962, and attended by 660 members and guests; 39 scientific papers were presented.

A special tribute to the late Dr. Harold G. Wolff, Past President of the Association, was prepared by Dr. Stanley Cobb. Dr. Cobb was also the recipient of the Jacoby Award presented tri-annually by the Association to a member who has performed especially meritorious experimental work in the field of neurology.

The 88th annual meeting will be held on June 10-12, 1963 at the Claridge Hotel, Atlantic City.

The newly elected officers: President—Charles D. Aring; President-Elect—Richard B. Richter; 1st Vice-President—Morris B. Bender; 2nd Vice-President—Knox Finley; Secretary-Treasurer—Melvin D. Yahr; Assistant Secretary—Clark H. Millikan; Editor of the Transactions—Melvin D. Yahr; Elect-

ed to Council for 5 years—James L. O'Leary ; Elected to Council for 2 years—Thomas Farmer ; Representative to American Board of Psychiatry and Neurology—Sidney Carter ; Elected to Honorary Membership—Macdonald Critchley, London, Eng.

THE NEW YORK SCHOOL OF SOCIAL WORK.

—Dean DelliQuadri of the New York School of Social Work, Columbia University, has announced the appointment of Dr. George H. Wiedeman, a graduate from the University of Prague, to the Marion E. Kenworthy Chair in Psychiatry at the School.

The Marion E. Kenworthy Professorial Chair in Psychiatry was founded in 1956 in recognition of Dr. Kenworthy's 36 years of distinguished and dedicated service on the New York School faculty.

AMERICAN ASSOCIATION OF NEUROPATHOLOGISTS, INC.

—At the 37th annual meeting of the Association, the following members were elected to serve as officers for the current year: Leon Roizin, M.D.—President; Martin Netsky, M.D.—President-Elect; Walter Bruetsch, M.D.—Vice-President; Irwin Feigin, M.D.—Secretary-Treasurer; Humberto Cravioto, M.D.—Asst. Secretary-Treasurer.

THE SOCIETY FOR THE SCIENTIFIC STUDY OF SEX.

—The fifth annual meeting of the society will be held at 9:30 a.m. on Saturday, October 20, 1962 in the Barbizon Plaza Hotel, 106 Central Park South, New York City. The topic for the morning session is "New Concepts in Sex Education," Chairman, Milton I. Levine, M.D. The topic for the afternoon session is "Prostitution," Robert V. Sherwin, LL.B., Chairman.

ANNUAL MEETING AMERICAN ASSOCIATION ON MENTAL DEFICIENCY.

—The 86th annual meeting of the Association was held at the Statler Hilton Hotel, New York City, May 1-5, 1962. The attendance constituted a record with over 1400 registrations.

The officers for the Association for the forthcoming year are: President—William Sloan, Ph.D.; Vice-Presidents: Psychology

—Rick F. Heber, Ph.D.; Education—Robert L. Erdman, Ed.D.; Administration—J. Thomas McIntire, A.B.; Social Work—Marguerite J. Hastings, M.S.S.; and Medicine—Isaac J. Wolfson, M.D. Glenn E. Milligan, Ed.D., appointed to the office of Executive Director, took over his duties on a full time basis June 1, 1962.

At the Saturday luncheon, Dr. G. S. Stevenson, President, World Federation for Mental Health, spoke on international progress in the field of mental retardation.

The 1963 meeting of the Association will be held at the Portland-Hilton Hotel, Portland, Ore., May 21-25.

PENN FOUNDATION FOR MENTAL HEALTH.

—In June 1962 the Penn Foundation dedicated the new Day Care Center at Sellersville, Pa. for which planning had long been under way. Among those in attendance was Dr. Daniel Blain, Commissioner of Mental Health for the State of California and formerly Medical Director of the American Psychiatric Association at its central office in Washington. He had been identified with the development of this special service from the beginning. Dr. Kenneth Appel, head of the Dept. of Psychiatry, University of Pennsylvania Medical School, also spoke very appreciatively of the importance of the new center of which Dr. Norman Loux will be in charge.

UNIVERSITY OF CINCINNATI MEDICAL CENTER.

—The National Institutes of Health (NIH) will assist the University of Cincinnati Medical Center in launching a training program in which psychiatrists will help their colleagues in medicine and surgery in dealing with mental problems they meet in their practice and in carrying on preventive work.

Dr. Maurice Levine, professor and director of the department of psychiatry in the university's College of Medicine, has announced the university has received \$150,000 from the NIH to back the program for 5 years.

Dr. W. Donald Ross, professor in Dr. *Levine's department, is director of the training program.

BOOK REVIEWS

HENDERSON AND GILLESPIE'S TEXTBOOK OF PSYCHIATRY. 9th Ed. Revised by Sir David Henderson, and Ivor R. C. Batchelor. (London, New York, Toronto: Oxford University Press, 1962, pp. 578 incl. index and bibliog. 21s. (U.K.).)

Henderson and Gillespie has been a standard English textbook for many years. The first edition appeared in 1927. While in subsequent editions it has kept pace with new developments, it has maintained an eclectic and wholesomely conservative point of view. This is what makes it so safe a guide for students at a time when the winds of doctrine sweep in so many contrary directions.

Dr. Henderson worked for a considerable period with Adolf Meyer at Johns Hopkins University, and to his memory he dedicates the book. He pays due respect to Meyerian philosophy and what has been called his "Common Sense Psychiatry," and speaks of "reaction-types" rather than "mental diseases."

A valuable new chapter in this edition deals with Psychiatry in General Medicine and should be pondered by physician and medical student alike. It shows that many situations which in a narrow sense are strictly psychiatric are simply a part of general medicine and which the medical practitioner should be qualified to handle. Sir David refers to the vast number of cases of minor psychiatric disorders, or, could we say, of persons who seem to think that they ought to consult a psychiatrist, while to one of an earlier generation that idea would never have occurred. He suggests that the tremendous increase in means of communication (TV, etc.) may be one cause of pathogenic social unrest. He does not mention the item of propaganda, not to say advertising, arising within the field of psychiatry itself, sometimes possibly concealed in aims to "educate the public," that may make us "too health-conscious" (or too unhealth-conscious).

Under various physical therapies the authors give thorough consideration to the question of frontal leucotomy, an operation used so freely, sometimes almost recklessly for some years following its introduction, but now largely discarded in the United States. Under the heading Present Position the authors state: "Undoubtedly much relief of human suffering and important advances in our understanding of frontal lobe anatomy and function were brought about by the operation of leucotomy.

But the indications for its use have in the past five years been much reduced with the introduction of new drug therapies . . . Probably the main indication for leucotomy now is for the relief of cases of obsessional neurosis, where there have been many years of suffering and relief cannot be brought in any other way."

This ninth edition of Henderson and Gillespie has been thoroughly revised throughout and many chapters have been rewritten. It encourages a constant critical outlook on the part of its readers. It continues to "emphasize the paramount importance of the psychological factor . . . in influencing every type of illness, bodily or mental."

We miss the numerous and carefully recorded case histories, appearing in previous editions, that brought vividly before the reader the conditions described. But those were the patients of other days: their clinical traits would hardly look the same today. They have all vanished from the text.

This work takes its place in the line of great textbooks. It perpetuates its own tradition and is the safe guide it has always been.

C. B. F.

THE FUTURE OF MANKIND. By Karl Jaspers. (Chicago: University of Chicago Press, 1961, pp. xii + 342. \$5.95.)

The German title of this book was *Die Atombombe und die Zukunft des Menschen*, and that is what this magnificent book, by far and away the best that has been written on the subject, is about. Karl Jaspers, as readers of this Journal will know, was originally a practicing psychiatrist of great distinction. He is now the world's leading philosopher, the chair in which subject he has held at Heidelberg since 1928, and of which he was deprived by Hitler in 1937, and in which he was once more reinstated in 1945. The author of the three-volume *Philosophie*, *Man in the Modern Age*, *The Origin and Goal of History*, *Reason and Existence*, and *Way to Wisdom*, with the publication of *The Future of Mankind* Jaspers magnificently caps a triumphantly noble life of labor in behalf of mankind. Like Bertrand Russell, Jaspers is no mere desk philosopher, but a man who believes that the meaning of words lies in the action they produce, and to that dictum he fully lives up. *The Future of Mankind* presents a pellucidly clear analysis of the

condition of contemporary man in the face of intimations of impending doom.

Jaspers is a realist, and has no use whatever for namby-pamby approaches or quick and superficial nostrums in dealing with the threats, not simply the threat, of annihilation which are everywhere about us. *The Future of Mankind* is an inspired book, written not with prophetic fervor but with the calm and telling reasonableness of a profoundly well-informed and insightful thinker and man of action. Every word is made to tell. I have seldom, if ever, read a book so epigrammatic, closely reasoned, and closely written. It is a book of the greatest power, and the publishers do right to call it momentous. It is a momentous book, and it is one about which one need not fear to pull out all the stops, and say that it ought to be required reading for everyone, and especially for every reader of this Journal.

Someone has defined an optimist in the modern age as one who believes the future is uncertain. It is a realistic definition, but there need be no question as to whether the future has a future, if men will do what requires to be done. The helplessness and resignation which so many men have fallen into is a consequence of the despair which one blunder after another has followed with seeming inevitability. But as Jaspers shows, with the new understandings that are possible, with the new political and suprapolitical ideals that are necessary if the challenges with which we are confronted are to be successfully met, there is more than a hope that we may yet triumphantly emerge from the slough of despond into which we have fallen. But first, foremost, and finally, it is the individual upon whom the main responsibility for manning the pumps must fall if the ship is to be saved from sinking.

In 1958 Jaspers was awarded the German Peace Prize for his noble book. He ought to be awarded the Nobel Prize for Peace. He certainly has my vote, and I am sure he will have the vote of everyone who reads his book—and it should be the moral obligation of everyone to read it.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

THE CHEMICAL BASIS OF CLINICAL PSYCHIATRY. By A. Hoffer, and Humphry Osmond.
(Springfield: Charles C Thomas, 1960, pp. 277. \$8.50.)

This book presents the full array of data supporting Hoffer's theories on the chemical basis of psychoses. The theory proposes that anxiety, depression, and the thought disturbances associated with schizophrenia represent toxic states

induced by various substances related to epinephrine—especially adrenochrome and adrenolutin. The authors believe that in schizophrenia the transformation of adrenochrome into leucadrenochrome is inhibited, so that excessive production of adrenolutin, a psychotogenic substance, results. Since adrenochrome is an evanescent substance, simple determinations of its plasma levels are inconclusive: the experimental validation of the theory is thus dependent on differential cerebrospinal fluid-plasma ratios, tolerance tests, *in vitro* conversion rates and numerous inferences and analogies that would require computers for adequate statistical treatment. The present reviewer does not feel competent to evaluate the biochemical aspect of the work. One would welcome more specific reference to the clinical subgroups of schizophrenic subjects with whom the experimental work was done. Many of the tabulations involved very small samples, individual anecdotal case reports are adduced, in some instances the number of cases upon which conclusions are based is not mentioned, and some of the analogies and inferences seem tenuous. So bold and significant an hypothesis would perhaps gain strength from more self-criticism, and there should be a fuller consideration of adverse and incompatible data available in the literature.

In spite of these considerations one leaves the book with the feeling that something of importance is involved that merits careful attention. Comprehensive theories are much needed in this field, and the authors must be commended for pursuing theirs with tireless experimental zeal.

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New York.

HEILPAEDAGOGISCHE PSYCHOLOGIE. (The Psychology of Remedial Education.) Vol. I, Second Revised Edition. By Paul Moor.
(Bern and Stuttgart: Verlag Hans Huber, 1960, pp. 326.)

Under Remedial Education the author understands the bringing up of children with some mental deficit, such as the mentally deficient, deaf-mutes, the psychopathic and the neglected. It surveys various "aspects" of the problem: the vital aspect (William Stern, Alfred Adler); the technical aspect (Pavlov, Watson, Koehler, Dewey, Freud); the moral aspect (Kuenkel, Haeblerlin); the spiritual aspect (Sprangler, Hartmann, Jaspers) and the aspect of educational restraint (Jung, Klages, Haeblerlin, Binswanger).

The greater part of the book is dedicated to

the phenomenon of "halt," its absence and relation to stability and steadfastness of behavior. A person without internal "halt" is deprived of principles and backbone and all his bearings, attitude and forms of behavior are unpredictable.

Throughout this interesting book great emphasis is laid on emotional support and guidance and the application of various educational theories and methods in the efforts to afford a measure of restoration to a deficient personality.

HIRSCH L. GORDON, M.D.,
New York, N. Y.

PSYCHIATRY, VOLUME I: PRINCIPLES. By E. Eduardo Krapf, M.D. (New York: Grune & Stratton, 1961, pp. x + 244. \$6.50.)

The author of this small volume is professor of clinical psychiatry at the University of Buenos Aires and chief of Mental Health, World Health Organization, Geneva. The subject is presented in two parts. Part I is called "Personology," a term not commonly used, which deals with the principles of structure and function of the nervous system, including the hypothalamus, thalamus and the cerebral cortex; with the organization of the "Psyche" including the sphere of ideals and the psychodynamics of the id, the ego, reality, and various needs and desires of the person. This part of the text includes also a description of the dynamics of behavior integration and stages of personality development.

Part II presents the semiogenetic, and pathogenetic approach to nosology. In the section on diagnosis there is a systematic history-taking procedure and instructions for the examination of the physical and mental systems. A final section outlines the individual, social and prevention aspects and procedures for therapy. There is a fairly comprehensive bibliography.

The author emphasizes that this is not offered to serve as a text book in the ordinary sense of the term, but is intended to present the conceptual foundations of various approaches to psychiatric problems. He describes the multidimensional approach to psychiatry as a foundation for practice and teaching. In keeping with the present fashion in psychiatry the material is based on the integration of general medical and psychological phenomena, utilizing recent concepts in neurophysiology and dynamic psychology.

The parts of the nervous system and other illustrations are in the form of schematic drawings which should be a useful orientation for students and those preparing for specialty ex-

aminations.

NOLAN D. C. LEWIS, M.D.,
Princeton, N. J.

FRONTIERS IN GENERAL HOSPITAL PSYCHIATRY. Ed. by Louis Linn, M.D. (New York: International Universities Press, 1961, pp. 481. \$10.00.)

To mark the World Mental Health Year, 1960, Dr. Louis Linn (Mt. Sinai Hospital, New York) has compiled observations from 44 workers in general hospital psychiatry throughout the world. These frontiersmen are, for the most part, settling new territory in a rapidly expanding province. The worldwide extent of the frontier is indicated by the sources of contributions which include Austria, West Germany, Great Britain, United States of America, France, Canada, Italy, Switzerland, Nigeria, Japan, Holland, Virgin Islands, Denmark, and Ruanda-Urundi, Africa.

The editor has divided the contributions into four parts: 1. Administration, 2. Patient Care, 3. The Impact on Medical Care, and 4. Some Developments in the World Scene. The result is an encyclopedic survey with close-up and firsthand reporting from most of the important outposts. The material is heterogeneous, often descriptive, sometimes narrative and always interesting. It is the story of an immigration and a settlement that is now far-flung. Psychiatric principles and practice have made their entry on a global scale and the frontiers are now within the general hospital walls. The fashioning of physical and chemical treatments, of psychotherapy and of the adaptation of group and social instrumentation is the modern story that is reported here.

This important book is of general as well as special interest. It can be recommended strongly to all psychiatrists and social scientists, to all physicians and surgeons and to all hospital administrators. It is the best account of modern general hospital psychiatry that I have read.

ALLAN WALTERS, M.D.,
University of Toronto.

HUMAN FACTORS IN JET AND SPACE TRAVEL. Edited by S. B. Sells, Ph.D., and Charles A. Berry, M.D. (New York: Ronald Press Co., 1961.)

This book proposes to consolidate the available information concerning the functioning of humans in jet and space environments in order that (a) interested persons of many disciplines

may better understand the problems involved, (b) physicians may have a compact reference to assist them in their preventive and therapeutic dealings with these problems, and (c) students may be provided with information that will aid them in their career decisions. There is much within the covers that will contribute to one or more of these objectives, although the organization of this material detracts from its usefulness.

There are 14 chapters, each written by a different person with one exception; the editors, in addition to contributing a separate chapter apiece, have also joined forces to produce a third. Eight of the authors are doctors of medicine, three are psychologists, one is a physiologist, and one is an engineer. From another viewpoint, eight of the authors are with the U. S. Air Force, four are with aviation companies closely associated with the Air Force, and the U. S. Navy provides a single representative. Although one would expect the Air Force to be heavily endowed with competence in regard to jet and space travel, it is believed that the monopoly indicated in this book does not adequately reflect the available talent in other U. S. laboratories, both military and civilian, especially in the areas of basic research.

The topics within the various chapters cover (a) technical descriptions of the jet and space environments, (b) descriptions of current and potential vehicles and related equipment, (c) preventive medicine for these new environments, (d) personnel selection and training problems, (e) operator performance within the new vehicles, (f) medical monitoring and maintenance, (g) morale and motivational aspects, and (h) the causes and prevention of accidents. In general, the information appears to be current as of 1958. As might be expected with multiple authorship, there is considerable overlap and a lack of systematic order in the presentation of common and related topics. This forces the reader who is interested in any one particular topic to search each chapter rather thoroughly for all possible references to his problem. In addition, the order of the chapters would have been more logical if topic sequence as listed above had been followed, but this might be a matter of personal preference. The coverage of the chapters is also somewhat heterogeneous, with some being rather short and cursory overviews and others being quite lengthy and detailed including the presentation of basic information that is fundamental to human behavior in all types of

environment. In one or two rare instances, the authors expound at too great length in areas which do not appear to be their special competence.

This volume should certainly be of value to the several audiences for which it is intended. The need still exists, however, for a more systematic presentation of this material directly by authors rather than through the mediation of editors.

CHARLES W. HILL,
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Washington, D. C.

PSYCHOLOGY AND EDUCATION. By *Hirsch Lazarus Silverman*. Foreword by *James A. Brussel, M.D.* Introduction by *Benjamin Fine, Ph.D.* (New York: Philosophical Library, 1961, pp. 160. \$3.75.)

The volume is comprised of a series of selected essays, previously published by the author in various places. The author is Professor and Chairman, Department of Education and School Psychology, Graduate School of Education, Yeshiva University.

The essays range widely, as do the published writings of the author. In the volume under review there is discussed the psychology of democracy in education; discipline (psychological and educational aspects); delinquency; religion and psychology; religious education; existentialism; the exceptional child; and the interpersonal theory of Sullivan—together with an attempt to relate psychology and philosophy.

Each essay is thoughtful, and well addressed to matters of moment. The sum total cannot be reviewed, at least by the present reviewer. The cohesion lies only in systematic confusion (which probably includes us all) except that one feels the sincerity of the author himself.

Since the time when Educational Psychology was made definite and, therefore, simple in Thorndike, and during the post-Dewey interlude where it ceases to be a self-contained discipline, one turns to a volume such as this to see if Education and Psychology are really as closely related as we once thought; or whether education in Plato's sense can be translated so as to encompass all significant aspects of living, including psychopathology. This reviewer is glad to have seen the volume; but cannot find much comfort or inspiration therein.

W. LINE,
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IN MEMORIAM

ERWIN STRANSKY, M.D.
1878-1962

Erwin Stransky, one of the great old men of the classical Vienna neuropsychiatric school, died in Vienna on January 28, 1962, in his 85th year. Born and raised in Austria, he graduated from the Vienna University as M.D. in 1900 and worked at the Vienna Neuropsychiatric University Hospital as a clinical assistant to Obersteiner and Wagner-Jauregg until 1909. In 1903 he became a lecturer in psychiatry and neurology on the ground of his thesis entitled "Contribution to the knowledge of certain acquired forms of dementia, also a contribution to the theory of dementia praecox," and in 1915 he became associate professor at the Vienna University. During World War I he served in the Austro-Hungarian Medical Corps. Following the annexation of Austria to Hitler's Germany in 1938 he was deprived of all his official connections and rights because of his partial "non-Aryan descent," and was able to survive the Nazi persecution physically unharmed thanks to his "Aryan" wife, an opera singer. Following the collapse of the Hitler regime and the reinstatement of the Austrian Republic in 1945, Stransky was able to resume his scientific and medical activities. Appointed physician-in-chief of the well-known neuropsychiatric hospital Rosenhügel, through his great personal efforts, he rebuilt it, practically with his own hands, from a war ruin to a flourishing centre for the treatment of neurological and psychiatric diseases. In 1946 the title of full professor was bestowed upon him, and in 1947 he became professor emeritus. During his medical career he became an active and honorary member of several scientific societies, among them the American Psychiatric Association which elected him to honorary membership in 1933.

Stransky was one of the last clinicians with a universal interest in the vast research area of psychiatry and neurology. His contributions were published in 295 papers and a large number of lectures over

6 decades. Very early he became interested in the problems of dementia praecox. Even before Eugen Bleuler he advocated a deeper psychological understanding of this illness. As early as 1903 he formulated the notion of "schism," anticipating Bleuler's concept of "splitting." Using a metaphor borrowed from clinical neurology, Stransky proposed the notion of "intrapsychic ataxia" as the basic psychopathologic element of dementia praecox. The lack of co-ordination between emotional processes ("thymopsyché") and thinking processes ("noo-psyché") described by Stransky is now generally accepted although often referred to as "incongruity of affect." Stransky emphasized the idea that in schizophrenia the feelings are not destroyed but rather separated from other mental phenomena. Even Kraepelin had to admit that Stransky's concept was "not without justification." Courageously and full of enthusiasm Stransky defended his theories against the theory of "amentia" during the first decade of this century, and against the currents connected with "deep" psychology, the attempts of psychogenetic interpretations of schizophrenia, as well as against the American formulations of schizophrenia in later decades. His summarizing study "From Dementia Praecox to Schizophrenia" published in 1954 is a fascinating analysis of the research in schizophrenia during five decades and, at the same time, of his own scientific development. As an excellent clinical psychiatrist Stransky made a large number of contributions to the phenomenology of other mental disorders, e.g., general paresis, epilepsy, Korsakoff's syndrome, and particularly manic-depressive illness. The chapter written by Stransky on the latter topic in Aschaffenburg's *Handbook of Psychiatry* has become a classic. Stransky was genuinely interested in questions concerning classification and nomenclature, as shown in his paper on the "Combined Psychoses," on paranoid conditions, on psychiatric and psychological methodol-

ogy, on the psychopathology of twilight states, *etc.* A large part of his time and endeavour was devoted to the theoretical and practical aspects of psychotherapy. In the twenties he wrote several papers on hysteria, "Critique of Psychoanalysis," "Direct Psychotherapy in Mental Diseases," "Viewpoints on the Theory of Neuroses," "Fashions and Short Circuits in Psychiatry," finally, in 1928, his basic study entitled "Subordination, Authority, Psychotherapy" in which he described his method of psychotherapy whereby the therapeutic effect was considered to be the result of the relationship between the patient's subordination to the therapist's authority.

Stransky was a staunch adversary of psychoanalysis. However, certainly Professor Hoff was right in his assumption that Stransky's attitude to psychoanalysis was highly ambivalent as shown by his early and inconspicuous use of notions coined by the psychoanalytic school of thought. Stransky stressed the importance of psychotherapy whose utilization by the general practitioner he strongly advocated. He was also an astute forensic psychiatrist whose description of the "initial criminal act" constituting one of the first symptoms in some cases of schizophrenia was but one in a large number of contributions to the specialty of forensic psychiatry.

As an experienced neurologist with deep interest in its basic sciences he made contributions to some problems of the peripheral nervous system during his early activities. Later on he studied specific phenomena in brain atrophy and other problems of cerebral pathology. His interest in the neuropathies, in the therapy with vaccines, and in the problem of non-specific therapy led him to the problem of therapy of multiple sclerosis. He devised a method of therapy with blood collected from elderly persons whom he considered as in a sense immunized against multiple sclerosis.

His interest in mental health, developed in his younger years, increased steadily, and led to the initiation of the Austrian mental health movement. His textbook, *Introduction to Mental Hygiene*, was one of the earliest treatises on that subject. From here he went on enlarging the realm of his considerations to problems of guidance of the

masses, of mental health activities in the interest of peace, and of *Psychopathy and Statesmanship* (1952), the latter study giving rise to some controversy. Finally he developed an enthusiastic interest in geriatric problems to which he was able to make important contributions.

Being a brilliant speaker Stransky was able to develop an extensive oratorical activity ranging from delivering papers at international and national scientific meetings to lectures in popular courses, evening classes, and senior high school classes. His audience, with which he easily established contact, was always fascinated both by his lectures and papers and by his vivid remarks and arguments in which he would invariably become involved as a discussant. He was quick witted, endowed with a sharp sense of humor, and an infallible memory which frequently helped him in fighting arguments, particularly concerning bibliographical references.

As one of his old time disciples may I add a few personal recollections. When I first met Professor Stransky in 1931 as a medical student eager to receive of the knowledge accumulated at the Vienna University over the centuries, I was deeply impressed by this elegant, handsome, extravert, enthusiastic teacher and leader of his audience. During the following terms I hardly ever missed one of his Saturday afternoon lectures during which he used to lead his small but devoted group of students into active participation in the examination and exploration of neurological and psychiatric patients and the discussion of questions regarding diagnosis, prognosis and therapy. He was a dedicated doctor who made no distinction between private and sick fund or clinic patients as far as his interest and devotion were concerned. When I last saw him in August of 1961 at the International Congress of Psychotherapy in Vienna he was still the enthusiastic orator, still young at heart, highly praised and respected by the younger generations of neuropsychiatrists under the leadership of Professor Hans Hoff. It was hard for me to believe when I learned of his death only five months later.

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PROCEEDINGS OF THE AMERICAN PSYCHIATRIC ASSOCIATION

SUMMARY OF MEETINGS OF COUNCIL AND EXECUTIVE COMMITTEE, MAY 1961 TO MAY 1962

This report presents in summary form the principal actions of the Council and the Executive Committee at meetings held throughout the year. Many routine matters, such as referrals to Committees prior to definitive action, are not included. Copies of the full minutes have been forwarded to the officers of each District Branch and Affiliate Society following the various meetings to keep their members informed of the matters that were considered and the action that resulted.

Executive Committee Meetings, June 16, Sept. 11 and Nov. 2, 1961. Established a Publications Review Committee to consider documents submitted via the Coordinating Committee Chairman or Council and to make specific recommendations to the Council regarding appropriate disposition of each document. The Committee was limited to 5 members appointed by the President for staggered 5-year terms. The Committee's expenses during the current fiscal year were to be charged against the Council Contingency Fund and the Budget Committee was instructed to set up an appropriate budget for the Committee effective Apr. 1, 1962. Was advised of the appointment of the following APA Representatives by the President: Dr. Howard V. Bair, Second International Medical Congress on Mental Retardation, Vienna, Austria, Aug. 1961; Dr. John A. P. Millet, Meeting of MEDICO, New York City, June 26, 1961; Dr. Herman C. B. Denber, French Congress of Psychiatry, Montpellier, France, June 1961; Drs. George S. Stevenson, John A. P. Millet, Robert H. Felix, D. Ewen Cameron and Aldwyn Stokes, Delegates, World Federation of Mental Health, Paris, France, Aug. 30 - Sept. 5, 1961; Dr. Donald W. Hastings, Women's International League for Peace and Freedom, Minnesota, June 26-30, 1961. Approved the purchase of 3,000 copies of the brochure, "Psychiatric Units in General Hospitals" by the Publications Revolving Fund. This brochure was prepared by the APA Committee in Liaison with the American Hospital Association and its counterpart committee from AHA. Agreed by consensus that where parallel committees exist in the parent organization and the District

Branches, appropriate data will be sent to the District Branches through the various liaison members of the APA Committees. Approved a standard \$3.00 registration fee for non-members at the annual meeting with the exception of foreign and distinguished guests, or interns and residents upon presentation of a letter of identification from their supervisors. These expected groups will be admitted without charge. Directed that those members scheduled to be dropped for non-payment of dues who send in full or part payment of their arrearage prior to the September Executive Committee Meeting should be retained on the membership rolls. Rescinded the action of Council which transferred a member to inactive status, restored him to active status at his request, and accepted payment of his dues. Reaffirmed its approval of the proposed Exploratory Conference on Mental Deficiency, approved the budget and financial arrangements recommended by the Committee on Mental Deficiency, and requested the President to appoint a Steering Committee in consultation with the Chairman of the Committee on Mental Deficiency. Authorized the Medical Director to continue to prepare the Agenda for the meetings of the Executive Committee and the Council, subject to the approval of the Secretary. Disapproved a recommendation that the category of Corresponding Member be eliminated from the proposed amendments to the Constitution and By-Laws. Also disapproved a recommendation that the category of Life Member be eliminated and voted to retain in the proposed amendments those Sections referring to Life Member (Article III, Sections 9 and 15; and Article IX, Section 3 of the Constitution. Chapter 2, Section 1c; Chapter 4, Section 1; and Chapter 6, Section 7 of the By-Laws). Disapproved by consensus the recommendation to define and enumerate "revocable" and "irrevocable" actions of the Executive Committee and the Council. Amended or revised several Sections of the proposed new Constitution and By-Laws after consideration of various recommendations of the Long Term Policies Commission and the Reference Committee. Approved the recommendation of the Internal

Management Commission that an Operating Reserve Fund should not be established at this time because of the availability of the Council Contingency Fund to meet unexpected expenses. Voted to retain Mr. Warren Magee as APA legal counsel for business purposes and in his absence to confer either with his associate or with the firm of Trammell, Rand and Nathan. Approved the following recommendation of the Internal Management Commission regarding Assembly communications as amended: "(A) *Intra-Assembly Communications*. A copy of all communications pertaining to District Branch affairs is to be sent to Central Office, addressed to the Medical Director, attention District Branch Office. The latter will ensure that copies of such correspondence are sent to the Recorder, the Speaker, and appropriate Officers of APA, for information and distribution as necessary. (B) *Other Communications*. Units of APA, including Officers, Committees, and Central Office will transmit copies of their District Branch correspondence to the Office of the Medical Director, attention District Branch Office, which will ensure that the Recorder, the Speaker and appropriate Officers of APA, receive copies for information and distribution as required." Approved the recommendation of the Commission that the responsibility for close surveillance of the financing, setting of rents, maintenance, costs, etc., of the APA real properties be delegated to the House Committee on a continuing basis, and that the Medical Director provide the Committee with the necessary data and support to accomplish this task. Approved the recommendation of the Internal Management Commission regarding the establishment of a Mail and Records Section in the Central Office and that all mail sent to the Central Office pertaining to Association affairs be addressed to the Medical Director. Rescheduled the 1964 annual meeting at the Biltmore Hotel in Los Angeles, Calif. to May 4-8. Authorized the President, at his discretion and after careful study of the situation, to make available from the Council Contingency Fund a sum not to exceed \$5,000 to assist the Joint Study on Continuing Medical Education. Directed the Secretary to express the interest of the APA in the general objectives of the MEDICO proposal that the Association set aside \$1.00 per member to support that organization financially and appoint a representative to serve on the MEDICO Board, but to indicate that it is not possible to levy an assessment on the membership for such a purpose. However, APA members will be encouraged to make voluntary contributions, and if this type of financial sup-

port is acceptable, the Executive Committee will consider the selection of an official representative to the Board. Approved the recommendation of the Ad Hoc Committee on Pre-Registration that the procedure as devised for the 1961 annual meeting be continued. Voted that there would be no revision of the present policy of rotation of Committee membership. Approved a change of name for the McGavin Selection Committee to the McGavin Selection Board. Approved the appropriation of an additional \$1,000 to the budget of the Committee on Constitution and By-Laws to permit the Committee to meet at the time of the Fall Committee Meetings. Approved a contract with the National Institute of Mental Health whereby APA will be paid the amount of \$4,025 to provide certain APA membership data to the Central Repository of Mental Health Manpower Information. Directed the Treasurer to inform those members whose dues are 3 years in arrears that they are being dropped from membership in the Association but to advise 3 individuals because of special circumstances that if and when their delinquent dues are remitted, they will be considered for reinstatement. Unanimously approved the action of the President in returning to the State of Maine its prepayment of charges for a Central Inspection Board report which has not been completed and commended him for his handling of the problem. Directed the Secretary to advise the Commissioner of the Department of Mental Hygiene of New York State that since the APA has not been able to complete the CIB report for Creedmoor State Hospital in a reasonable period, the \$2,000 fee paid to the APA will be refunded. The Secretary was also instructed to inform all hospitals involved for which a completion date has not been scheduled with reasonable certainty, that the CIB has been discontinued and its reports delayed indefinitely. The reports will be completed, if possible, but no charge will be made to the hospitals concerned.

Council Meeting, Nov. 24-26, 1961. Authorized a statement to President Kennedy at the request of the Committee on Public Health suggesting that if Federal budgetary reductions are necessary, they should be affected in programs other than in the health fields. At the direction of the President, Dr. Tompkins and Mr. Robinson drafted such a statement which was accepted by consensus. Approved by consensus the following statement: "The Public Health Committee considers the area of international tension and potential nuclear war to present both immediate mental health problems in their effect on the public, and potential

morbidity and mortality problems of staggering degree, and indicates that this area requires the attentive investigation by the National Institutes of Health." Ruled that the APA does not undertake to approve or disapprove individual prepayment plans for treatment. Agreed by consensus that the membership should be advised through the Mail Pouch that there are important limitations in their malpractice insurance coverage, such as those referring to the use of experimental drugs. Members should read their policies carefully, notify the insurance carrier promptly when they have difficulty, and seek legal advice when such is appropriate. Approved the recommendation of the Committee on Standards and Policies of Hospitals and Clinics, strongly reaffirming the policy that mental hospital administrators should be experienced psychiatrists with administrative ability. Directed the staff to develop a packet of material to provide information on this subject in further support of the policy of the APA regarding mental hospital administrators. Directed the Committee on Standards and Policies of Hospitals and Clinics to incorporate into their proposed restudy of mental hospital standards a re-examination of the role of the mental hospital administrator. Disapproved as premature a request from the Committee on Psychiatric Nursing for authority to sponsor a multidisciplinary conference and suggested that the proposal should be re-submitted for consideration together with specific supporting data. Deferred action on the request of the Committee in Liaison with the American Academy of General Practice for a change of name and directed the Committee to explore this matter with the Academy to determine their reaction. Authorized the Committee on Academic Education to solicit funds in the name of the Association to underwrite a conference on "The Role of the Psychiatrist in the Schools." Authorized the President to advise the Committee on International Relations that it may cooperate in the planning for the South American Congress of Psychiatry provided the APA is invited to do so. Commended the various Committees for their accomplishments in relation to the study of the report of the Joint Commission on Mental Illness and Health as well as in the other areas reported upon by the various Coordinating Committee Chairmen. Disapproved a proposal by the Nominating Committee to put 3 names in nomination for the officers of President-Elect, First Vice-President and Second Vice-President with members indicating their choice for each position by ranking the candidates by

number and the respective offices being awarded on the basis of totals. Directed that in the preparation of election ballots, the names of candidates for Councillor should be rotated so that each name appears on the list in a specific position an equal number of times. Considered the various provisions of the new Constitution and By-Laws proposed by the Committee on Constitution and By-Laws. Amended the Constitution by striking out the entire document and substituting the new provisions; amended the By-Laws by striking out all of them and replacing them with the proposed new By-Laws; and empowered the Executive Committee to act for the Council in reviewing and approving those Sections of Chapters 3, 4, 5, and 6 of the By-Laws that had not been acted upon at this meeting. Referred to the Executive Committee the proposed budget for the 1962-63 fiscal year. Authorized a Western Divisional Meeting in 1963 either in Los Angeles or San Francisco as determined by the appropriate local officials. Agreed by consensus that the Membership Committee should plan to hold two meetings during 1962. Commended the Moderator for the manner in which he handled a most difficult meeting.

Executive Committee Meetings, Jan. 15 and Mar. 5, 1962. Approved the proposed new Constitution and By-Laws as amended at this meeting and directed that they be transmitted as a finished document to the membership for information and consideration prior to a definitive vote by the membership. Directed that the proposed amendments to the Constitution and By-Laws should be submitted to the membership for consideration by mail ballot after being read at the 1962 annual meeting in accordance with the customary procedure. Directed that the Editor of the Journal be requested to publish in an early issue of the Journal, but not later than an issue which will reach the membership before the annual meeting, the revised text of the proposed amendments to the Constitution and By-Laws. In addition, the Association will purchase a sufficient number of reprints so that they can be distributed to the membership in attendance at the annual meeting and at the time of balloting. Directed that expenses related to the implementation of this action should be defrayed from otherwise unobligated funds of the Association. Revised and approved the official Position Statement of the Association regarding the final report of the Joint Commission on Mental Illness and Health entitled *Action for Mental Health*. Approved by consensus the preparation of a brief summary

statement to accompany the official Position Statement. Approved, as amended, the recommendations of the Internal Management Commission with regard to business practices in the Central Office as follows: 1. *Travel*. The travel budget shall be appropriated to the Office of the Medical Director where expenditures shall be made at the discretion of the Medical Director. Said expenditures to be within the budgetary limitations of each fiscal year, and in the best interest of the aims and objectives of the APA. 2. *Staff*. The maximum number of permanent positions on the staff and the amount of money to compensate for these positions shall be set by the Council each fiscal year. The Medical Director will operate within these conditions and within the established overall budget. 3. *Entertainment*. The entertainment budget shall be appropriated to the Office of the Medical Director who shall authorize expenditures at his discretion and within the budgetary limitations of the fiscal year. 4. *Overall Budget*. Subject to the limitations set forth in "2," above, the Medical Director shall have authority to transfer funds within the budget for operating purposes, provided that in no case will he transfer more than 25% of the official budgeted item without prior approval of the Treasurer. 5. *Miscellaneous Expenses*. Items in the budget falling within the categories of repairs, renovations, and furnishings shall be accounted for in the budget allotted to "Operation and Maintenance of the Central Office Building" or the appropriate budget item for other Association properties, rather than under "Miscellaneous." Appointed the President-Elect as an annual *ex-officio* member of the Reference Committee. Approved the recommendation of the Internal Management Commission that the Mental Hospital Service act as the secretariat for the American Association of Volunteer Services Coordinators. Approved the 1962-63 budget as recommended by the Budget Committee with the proviso that the Committee will be asked to review several specific requests for increased appropriations. Approved a supplemental appropriation of \$1400 for the Assembly budget during the 1961-62 fiscal year as a non-recurring item, and directed that funds should be transferred from the Coordinating Committee budgets to offset this appropriation. Approved pre-registration for the annual meeting as a policy of the Association as recommended by the Reference Committee. Approved the recommendation of the Reference Committee and directed that Council Meetings continue to be scheduled for two days except in unusual circumstances. Approved

the recommendation of the Publications Review Committee that no commitment be made at the present time to endorse or publish the proposed book, *Careers in Psychiatry*. Approved the guide lines prepared by the Publications Review Committee to implement its basic functions. Authorized the Ad Hoc Committee on Insurance to prepare a brochure on malpractice insurance at no expense to the Association. Authorized the President to appoint an Ad Hoc Committee to cooperate with representatives of the Japanese Society of Psychiatry and Neurology in the preparation of the scientific program for the joint meeting scheduled in Tokyo in May 1963. Restored to the membership rolls an individual previously dropped for non-payment of dues, accepted the arrearage, and directed that the individual's membership record be continued with no break in continuity. Voted to validate the mail ballot of Executive Committee members on two proposed amendments to the Constitution and approved the President's interpretation of the response. Agreed by consensus that there should be no adjustment of the approved budget for the 1962-63 fiscal year at this time. Authorized an increase of \$12,746.79 in the budget for the 1961-62 fiscal year for the following operations in the individual amounts specified by the Treasurer and directed that when necessary, these additional monies should be transferred from the General Fund: Mail Pouch, \$1,500; Medical Director's Office, \$4,000; Central Inspection Board, \$3,183.79; Elevator Modernization, \$963; Council and Executive Committee, \$500; Council Contingency Fund, \$600; Publications Office, \$2,000. Approved the transfer of funds in the amount of \$500 from the budget to the Coordinating Committee on Technical Aspects of Psychiatry to the budget of the Coordinating Committee on Community Aspects of Psychiatry as recommended by the Treasurer. Authorized the immediate termination of the Special Book Fund and the transfer of the cash balance of \$60.17 to the General Fund. Future undesignated cash gifts of a minor nature will be deposited in the General Fund. Directed that the Seymour D. Vestermarck Memorial Lecture Fund should be continued as a Restricted Fund with the present balance deposited in a separate savings account. Validated and made a matter of record its previous decision which was reached during a telephonic conference authorizing the APA General Counsel to develop a brief and to file it on behalf of the Association in the Jenkins Case. Directed that after the appellate court has reached a decision in the Jenkins Case, the appropriate details

should be distributed so as to reach the most people in the least expensive way. The Committee on Psychiatry and the Law will work with the staff in determining what information should be distributed, how it should be distributed, and who should write the necessary explanatory material. Directed the Chairman of the Coordinating Committee on Technical Aspects of Psychiatry to contact the Society for Adolescent Psychiatry to ascertain their willingness to consider a Round Table at the 1963 annual meeting as an adequate forum within the APA for their group, and to approach the Section on Child Psychiatry regarding the possibility of changing their name to include adolescence. Agreed by consensus that an appropriate letter should be sent to candidates for Fellowship following consideration of their applications by the Membership Committee and that the necessary letter should be prepared by the staff. Approved a resolution recommended by the Treasurer to establish a checking account in Toronto to pay local bills incurred during the 1962 annual meeting and directed that the account be limited to \$3,000. Approved the recommendation of the Committee on Psychiatry and the Law and ratified the President's personal statement on confidentiality as the official APA statement on the subject (statement prepared by Past-President Robert H. Felix). Established a Commission on Insurance to be comprised of 5 members appointed by the President and reporting directly to Council, which will be responsible for all insurance problems as they relate to the Association. The Commission's attention was directed to the desirability of maintaining a close liaison with the Committees on Private Practice, Mental Hospitals, and Liaison with the American Hospital Association. Approved the recommendation of the Committee on International Relations and authorized the appointment of an APA representative to the Advisory Board of MEDICO by the President. Approved the request of the AMA Council on Medical Education and Hospitals and directed that an appropriate panel of 5 names should be submitted annually for possible appointment to the Residency Review Committee. Approved the SK&F Foundation's proposal for the establishment of an APA President's Fund subject to the recommendation of the Committee on Grants and Awards. Approved the intent of the proposal to bind the Presidential Addresses beginning with President Barton with details to be worked out by the staff in cooperation with the Treasurer. Explorations will also be made into the possibility of securing funds to bind the addresses of Past-Presidents. Directed

that information copies of all official APA correspondence from Officers, Committee Chairmen, *etc.*, should be forwarded to the Central Office for incorporation into the permanent files. Approved a memorial to deceased members in the form of a book mounted on a lectern at the annual meeting and the subsequent mounting of the pages in a permanent volume at the Central Office. Directed that the U. S. Committee of the International Conference on Social Work should be advised that the APA cannot contribute toward the development of an exhibit for their 1962 conference because of budgetary limitations. Directed that the American National Council for Health should be advised that the APA cannot contribute toward the expenses of the 1962 International Conference on Health Education because of budgetary limitations. Appointed Drs. Henry Brill, Henry Brosin, and Henry Davidson as an Advisory Committee to the staff IBM Project. Were informed of the following Presidential appointments: Drs. Robert Daniels and William Sheeley as representatives to the Oct. 28, 1961 meeting of the Joint Study on Continuing Medical Education in Chicago; Dr. William Malamud as representative to the Anniversary Symposium of the Eastern Psychiatric Research Association in New York City on Oct. 27, 1961; Dr. Peter A. Martin as representative to the meeting of the American Occupational Therapy Association in Detroit on Nov. 6-8, 1961; Dr. John F. Briggs to the Committee on Relations with Psychology with term ending in 1963; Dr. Lewis Robbins to the Survey Board; Dr. Daniel Blain to the advisory committee for the implementation of the mental health manpower information and studies program of the Training Branch of the National Institute of Mental Health; Dr. Donald Hammersley as representative to the 1962 meeting of the National Association of Recreational Therapists; Dr. Johnathan Cole to the AMA Council on Drugs; Dr. T. Richard Gregory to serve as a one-man Ad Hoc Committee on the Biographical Directory; Drs. William Earley and William Sheeley as representatives to the meeting of the AMA Advisory Committee on Continuing Medical Education on Mar. 13, 1962; Drs. Francis O'Neill, John Blasko and Cecil Wittson as representatives to the Ad Hoc Citizens' Consultant Committee of NIMH to study training needs for mental hospital business administrators; Drs. Mathew Ross and Kenneth H. Gordon as representatives to the 66th annual meeting of the Academy of Political and Social Science in Philadelphia on Apr. 13-14, 1962; Dr. Eugene A. Hargroves as representative to the Regional

Conference on Aging sponsored by the AMA Committee on Aging, Charlotte, N. C., Apr. 13-14, 1962; Dr. Jack R. Ewalt as representative to the National Leadership Conference sponsored by the NAMH in Washington, D. C., Mar. 5-7, 1962; Drs. Walter Barton and Mathew Ross to attend the meeting at the AMA headquarters on Mar. 29, 1962 to hear the final report of the Joint Study on Continuing Medical Education; Ad Hoc Committee for Joint Meeting with Japanese Society of Psychiatry and Neurology in Tokyo, May 1963; Dr. Alfred Auerback, Chairman, and Drs. Karl Bowman, Robert Garber, Zigmond Lebensohn and Eric Wittkower; Dr. Jack R. Ewalt will serve as Honorary President and Dr. Henry Brosin as Honorary Vice-President in accordance with Japanese protocol. The President appointed those members currently serving on the Permanent Council of the World Psychiatric Association as a Committee to advise APA regarding its relationship with the WPA. These members are Drs. Daniel Blain, Francis Braceland, D. Ewen Cameron, Robert Felix and Winfred Overholser. Dr. Felix was appointed official representative to the 1962 meeting of WPA. Authorized the payment of dues to the WPA in the amount of \$20 for the years 1960 and 1961 and directed that this expense should be charged against the Council Contingency Fund. Referred a request for information from the AMA Committee on Medical Care to the Chairman of the Coordinating Committee on Community Aspects of Psychiatry for transmittal to an appropriate Committee in his group.

Council Meeting, May 5-6 and 10, 1962. Reduced the subsidy to the Journal from membership dues from \$4 to \$2 per member. Authorized the Assistant Medical Director to sign checks for a maximum of \$100 each on the petty cash account of the Central Office. Appointed the Assistant Medical Director as Budget Control Officer for the Central Office. Authorized the Treasurer to invest excess cash reserves in marketable securities with the counsel of the financial advisor. Designated the Treasurer as official representative of the Association to discuss with officials of the Modern Founders details regarding their fiscal policies and functions. Amended and approved the recommendations of the Committee on Membership regarding applicants for admission and changes of membership status and directed that the list be submitted to the membership for action. Commended Dr. Marvin Adland, Chairman of the Membership Committee, for his excellent and comprehensive report. Approved the recommendations of the Member-

ship Committee regarding transfer to Inactive status, remission of dues (as amended), and resignation in good standing. Accepted the list of members who are 2 years in arrears and will not receive the Journal, as an information item. Deferred action on the list of members who are 3 years in arrears until the Sept. 1962 meeting of the Executive Committee. Expressed its appreciation to Mrs. Frances Davis of the Central Office staff, who is about to complete 10 years of service with successive Membership Committees, in a Resolution submitted by the Secretary and approved by the Council. Commended Dr. Evelyn Ivey for her work as Chairman of the Board of Tellers. Approved two modifications of the proposed amendments to the Constitution and By-Laws. Amended the minutes for the Mar. 5, 1962 Executive Committee Meeting by deleting the last sentence of Item 9.4. Approved the establishment of the West Virginia Branch and the Onondaga (New York) District Branch upon recommendation of the Policy Committee. Empowered the President to appoint an Ad Hoc Committee to seek ways and means for advising on the implementation of the final report of the Joint Commission on Mental Illness and Health. Directed the Reference Committee to continue to study the subject of professional courtesy, taking into consideration all of its ramifications utilizing the APA Committee structure, and when the time is appropriate, to bring a recommendation to the Council for consideration. In the interim, the Council statement of May 6, 1954 (Item 38.2 of the minutes) will stand: "Council unanimously went on record as disapproving the making of charges by psychiatrists for single visits or for short term therapy in the case of physicians and their immediate dependents as defined by the AMA..." Accepted as official policy of the Association the report of the AMA's Committee to Study Relationships of Medicine with Allied Health Professions and Services (so-called McKeown Report, approved by the AMA House of Delegates) upon recommendation of the Reference Committee, and extended a vote of thanks to the Committee on Relations with Psychology for their work on this matter. Approved the recommendation of the House Committee to place in the Central Office photographs of President-Elect Branch and Incoming President-Elect Ewalt, together with President Barton, in the recent Presidents' collection as a measure of convenience, symmetry and economy. Approved the recommendation of the House Committee and reaffirmed its authority to purchase property 1807 R St. at a reasonable price not to exceed \$40,000 and

with "deliberate speed" at the discretion of the Committee. Approved the changes in qualifications for candidates for certification by the Committee on Certification of Mental Hospital Administrators upon recommendation by the Committee. Nominated Dr. Walter E. Barton as one of the 4 APA representatives on the American Board of Psychiatry and Neurology, Inc., for a term to expire in Dec. 1966. Was informed of the following Presidential appointments: Dr. William P. St. John as representative to the 1962 annual meeting of the Royal Medico-Psychological Association in London; Dr. Alvin Goldfarb as representative to the Conference on Aging, Ann Arbor, Mich., June 1962. Drs. M. Ralph Kaufman, Addison M. Duval, Elmer Caveny, Peter Regan and Herbert Gaskill as representatives to the AMA Residency Review Committee; members of the Commission on Insurance: Dr. Joseph Abramson, Chairman, and Drs. Charles K. Bush, John Cotton, Perry Talkington and Alexander Simon; Dr. Robert T. Morse and Mr. Robert L. Robinson to work with the Coordinating Committee of the American Association for the Advancement of Science for the Non-Commercial Educational Television Project; Dr. W. Horsley Gantt as APA representative on the Board of MEDICO. Approved the establishment of the West Hudson District Branch. Instructed the House Committee to engage an engineer's services for the purpose of conducting a survey of the Central Office. Elected Dr. C. H. Hardin Branch as Moderator. Elected Drs. Walter Barton and Daniel Blain to the Executive Committee. Approved the appointment of Drs. Edward Beaghtler and Rogers J. Smith to the Membership Committee. Approved the establishment of the following Ad Hoc Committees upon recommendation of the President-Elect: Joint Committee with Canadian Psychiatric Association; On Recognition of Psychiatric Service Personnel; Contract Survey Board; IBM Advisory Committee; On the Convocation; To work in Cooperation with the Japanese Society of Psychiatry and Neurology; Biographical Directory. Discharged the SK&F Foundation Awards Committee. Discharged the Committee on Committees since its work is being done by the Reference Committee. Approved in principle a proposed project between the Association's IBM Coding Project and the NIMH to improve the manpower information on psychiatrists in the U. S. and authorized the Central Office to prepare a contract with NIMH on the matter for consideration by the Executive Committee or the Council. Was informed of the following appointments by the President to the

Ad Hoc Committee to Study and Make Recommendations in the Implementation of the Report of the Joint Commission on Mental Illness and Health: Dr. Francis Gerty, Chairman, and Drs. Francis Braceland, M. Ralph Kaufman, Dana Farnsworth and Walter Barton. Authorized an Ad Hoc Committee to work with the AMA in planning and implementing the First Congress on Mental Illness, with appointments to be made at the discretion of the President and necessary funds to be allocated from the Council Contingency Fund. Authorized the Committee on History of Psychiatry to continue its oral history project. Authorized the Committee on Rehabilitation to seek funds from the Office of Vocational Rehabilitation and NIMH to hold a Workshop on Rehabilitation, with the proviso that they coordinate this action with the Committee on Grants and Awards. Discussed the use of experimental drugs in clinical research at the request of the Committee on Research and approved the following Resolution: "1. That the need to take action is urgent, 2. That the President of APA write to the President of AMA inquiring about the feasibility of a Joint Conference on the subject, 3. That this matter be referred to the Reference Committee with instructions that they proceed forthwith to mobilize appropriate APA Committees and establish appropriate liaison with other organizations in order to formulate a positive statement which may insure a continuation of research along these lines and at the same time provide protection for people who engage in such research, and 4. That the Reference Committee bring specific recommendations to the Executive Committee or Council as soon as practical." Approved a change of name of the Committee on Mental Deficiency to the "Committee on Mental Retardation." Approved the intent of the Committees on Psychiatric Nursing, in cooperation with the Committees on Social Work, Relations with Psychology, and Standards and Policies of Hospitals and Clinics, to meet with representatives from appropriate organizations at no expense to APA for an initial planning meeting on the possibility of multidisciplinary conference on patient care and to present periodic progress reports to the Executive Committee or the Council prior to subsequent action. Clarified a previous action by restating that a standard registration fee of \$3.00 will be charged for non-members at the annual meeting with the exception of foreign and distinguished guests or interns or residents and medical students upon presentation of proper identification. Approved the request of the Committees on Oc-

cupational Psychiatry and on Leisure Time and Its Uses to solicit funds for the purpose of producing their respective newsletters, that said money should be deposited in the APA treasury in a Restricted Fund, that the Treasurer should supervise the disbursement of this money, and that this action be cleared with the criteria established by the Committee on Grants and Awards. Dr. Branch announced the following appointments to the Ad Hoc Committee to Work with the AMA in Planning and Implementing the First Congress on Mental Illness: Dr. Lauren Smith, Chairman, and Drs. M. Ralph Kaufman, G. Wilse Robinson, Jr., and Robert Garber. Necessary expenses for this committee will be charged against the Council's Contingency Fund. Dr. Francis Gerty was appointed Chairman of the Committee on Long Term Policies. Approved honoraria in the amount of \$150.00, plus expenses, to both Professor Murray L. Barr and Professor John Money, guest speakers by invitation at the 1962 annual meeting. Agreed by consensus that the format of the annual meeting Opening Exercises should be changed to begin with official greetings, followed by the Presidential Address, after which all other re-

ports will be presented. Expressed sincere appreciation for the outstanding work of the Committee on Arrangements. Commended Dr. John Donnelly for his excellent work with the Program Committee during his 3 years as Chairman, not only for the very fine programs, but also for his good nature, tact and equanimity during his period of office. Continued the Commission on Long Term Policies for an additional 5 years. Authorized the office of Mr. Austin M. Davies to perform secretarial duties for the New York Society for Clinical Psychiatry; Mr. Davies to set an appropriate hourly fee for such services and bill the Society accordingly. Appropriated an additional \$2,000 to the budget of the Program Committee for the 1962-63 fiscal year.

As Secretary, I wish to express my great indebtedness to the officers and membership for their understanding and cooperation during the past year and to the staff of the Association for their ever-present and essential assistance in discharging the responsibilities of this office.

Harvey J. Tompkins, M.D.,
Secretary.

REPORT OF THE TREASURER

It is my pleasure and privilege as Treasurer to report that the financial condition of our Association is better at this time than for many years past.

This appears due to two principal factors. The primary one was the raise in membership dues effective April 1, 1961. The second was the improvement in internal management of the Association which has resulted from the work of the newly-formed Internal Management Commission. The good judgment of the Council and the various committees of the Association has been reflected in an efficiency of operations which has permitted us for the first time in several years to operate fully in the black.

You will remember that our recent financial difficulties of the past several years were caused by a shortage of cash reserves due to the outright purchase of our new Central Office Headquarters in Washington, D. C. In passing, I am proud to report to you that \$215,882 was pledged as gifts for the purchase of that new home and as of March 31, 1962, all but \$681 (about .3 of 1%) of that amount had been paid. This is a truly remarkable accomplishment and obviously reflects the deep affection and inter-

est of our members in Association affairs.

You will remember that we dug deeply into our reserves to finish out the year ending on March 31, 1961, rather than borrow membership dues from the next year's income which had been the custom for several years past. Thus, we were able to start the year 1961-62 with a clean slate and with the increased income which would come from the raise in dues. This was obviously a most favorable beginning.

In the previous year we had purchased two properties adjacent to our Central Headquarters building for \$57,570 on which we carry mortgages in the amount of \$30,515. Not allowing for depreciation of these properties, our income from rent during this year approximated the expense of operation.

We have for several years followed the standard practice of gradually setting aside money to cover depreciation costs on equipment, furniture, buildings and grounds of properties we own. Furniture and equipment have now been written down to the value of \$1.00 and we have this year for accounting purposes set up a Special Valuation reserve of \$50,000 which, if continued over the next 6 years,

would serve to reduce the valuation of our properties to a nominal value of one dollar. This policy represents a very conservative fiscal adjustment which will be most helpful financially as we try to work out our future space needs and possibly combine our office operations.

For the present operating year we had income to the General Fund of \$885,461 with expenses of \$858,583, or a net gain of \$26,878. The increase in membership dues produced an increased income of approximately \$110,000. With this increased income we are now on a firm financial operating basis.

In addition to the General Fund, we have in the Special Purpose Fund the sum of \$9,700, and in the Restricted Fund the sum of \$160,000. These funds cover the many grants, awards, special conferences and research projects operated by the Association.

We own marketable securities which have a present value of \$161,000 which cost us \$82,000. With our current improved cash reserves, additional investment in marketable securities is indicated and recommended and the Council has approved this recommendation.

With but a few exceptions caused by unpredictable and unforeseen situations, all of our Committees, Commissions and other units have lived within their budgets during the past year and to them I express our gratitude.

Several units in our Association have shown profitable financial gains during the year. I refer in particular to the Publications Section which showed a gain of \$12,000, the Newsletter and Mail Pouch a gain of \$15,000, and the Journal a gain of \$34,000.

To help support the operations of the Joint Information Service, we received from the National Association of Mental Health the sum of \$7,953, and for the Mental Hospital Service the sum of \$10,000. We are grateful for this assistance.

Careful attention will be given to the operation of the Mental Hospital Service in the Central Office unit because of a deficit in operations for the year of some \$15,000. This was primarily due to a reduction in projected income of \$12,000 in advertising and about \$6,000 in subscriptions.

At the request of the Internal Management Commission, the Treasurer spent additional time during the year supervising the detailed fiscal operations of the Association. It is believed this has been of some benefit. Certain weaknesses in operations were uncovered and corrected. Certain new methods have been recommended including the establishment of a budget control officer in the Central Office of the Association.

In conclusion, I would like again to assure the membership that the funds of the Association are received and disbursed under proper operating procedures and are safeguarded at all times.

My special thanks are extended to Mr. Austin Davies, Dr. Bart Hogan, and Mr. Joseph Turgeon for their unflagging devotion to the fiscal affairs of the Association and for their outstanding cooperation with the Treasurer during the year.

Addison M. Duval, M.D.,
Treasurer.

REPORT OF COORDINATING CHAIRMAN : COMMITTEES ON TECHNICAL ASPECTS OF PSYCHIATRY

Conducting the affairs of the American Psychiatric Association can be a very confusing as well as an exciting job. If it is well done, as many members as possible should participate in determining its policies as well as in carrying them out. A neat balance between seeming authoritarianism and utter chaos should somehow be achieved. It is the job of a coordinating committee chairman to interpret the actions of the Officers and the Council to the Committees and through them to the District Branches and the general membership. Likewise it is his duty to communicate the wishes and sentiments of the members, speaking through their Committees, to the senior gov-

erning body. Psychiatry is oversold and under-supported. By such examinations as those which have been conducted this year by all the Committees on the report of the Joint Commission on Mental Illness and Health, it should be possible to aid in giving the public realistic information of what can be expected from psychiatry and related fields and at the same time acquainting the public, and particularly its legislative bodies, with the scope of effort required to solve the major mental health problems. Thus we should not have to continue forever in the vulnerable position of always having to deal with problems whose solutions are beyond our resources.

Groups with special interests have a particular responsibility to see that those whom they represent are not neglected. Thus the Committee on Aging, under Dr. Maurice E. Linden, has been engaged through research in preparing a statement regarding the place of geriatric education in medical schools and in psychiatric residency programs. They have developed a policy statement for the APA on the King-Anderson bill, not with regard to whether the bill itself is desirable or undesirable, but attempting to see that this or any other bill take into consideration the needs and dignity of elderly people. The Committee held a Round Table at the meeting and chaired a section program.

The Committee on Childhood and Adolescence, Dr. Reginald S. Lourie, Chairman, has been quite active in standard setting and position determining functions, some of them in collaboration with other organizations with similar interests and goals. Among these are 1) the Joint Conference on Training in Child Psychiatry to be held with the American Academy of Child Psychiatry in January 1963, 2) the Task Force on Juvenile Delinquency aided by a grant from the American Child Guidance Foundation, 3) the National Association of Juvenile Court Judges with whom liaison work has been initiated. Work on preparing a list of consultants in child psychiatry for South American countries has been under way for the WHO. The Committee has also reviewed a bibliography for trainees in child psychiatry prepared by Dr. I. N. Berlin and has recommended to the Council that it be published by the APA.

The Committee on the History of Psychiatry, under the guidance of Dr. J. Sanbourne Bockoven, has concentrated its work this year on two areas. The first is the stimulation of research and study which draws its data from sources already safely preserved in libraries, public or private. The second is the rescue of other valuable sources of historical knowledge before they are forever lost. Among the latter are the memoirs of many of our present older colleagues, men and women who have shaped the course of modern psychiatry in America. These the Committee hopes to preserve by a series of tape-recorded interviews, now underway. There are also many records and documents in various mental hospitals throughout the United States and Canada which are of considerable historical significance but which are in danger of being discarded as building programs develop. In the private libraries of many of our members are valuable and even unique items that ought ultimately to be

housed in our central collection.

The Committee on Medical Education, with Dr. C. Knight Aldrich in charge, has been quite active in preparation for the forthcoming conference on Graduate Psychiatric Education.

Many hospitals are requesting psychiatric teaching of their interns and residents. In view of the fact that a considerable number of internships and residencies in other specialties are located in institutions without psychiatric training centers, the active collaboration of all members of the District Branches is desirable, whether or not they are affiliated with psychiatric training centers. It is essential that psychiatrists assist in developing teaching plans and mobilizing psychiatric resources in their own communities to meet these emerging demands.

The Committee on Mental Deficiency, led by Dr. George Tarjan, has picked up some powerful support from a variety of sources during the past year, and its plea that mental retardation should be viewed as a part of the total mental health problem has been widely heard even though not yet as fully heeded as it would like. Nevertheless, the growing public and professional awareness of the extent and nature of mental retardation, and especially the appointment of the President's Panel on the subject, has greatly encouraged the Committee.

Much of the Committee's activity during the year was devoted to the preparation and conducting of an Exploratory Conference on Mental Retardation. This was held at the new University of Kentucky Medical Center with 30 persons in attendance, representing 15 organizations. Financial aid was received from the Project on Technical Planning in Mental Retardation of the American Association on Mental Deficiency.

The participants recognized the increasing magnitude of the problem of retardation. It was thought that the solution will involve medicine and its various specialties, and a number of other professional disciplines. Inter-specialties communication and interest in mental retardation require changes in the training of medical students and in the preparation of specialists. Inter-disciplinary approaches to such a complex phenomenon as retardation should be emphasized.

The Committee on Public Health, Dr. Benjamin A. Pasamanick, Chairman, has been concerned with improving relations between District Branches and local mental health societies. Relatively inactive local societies tend to inhibit each other, and this is to be deplored. In general, the Committee sees so many things that should be done in promoting psychiatric

aspects of public health that it is almost literally overwhelmed by the magnitude of the tasks that need to be done in this field.

The Committee on Rehabilitation, under the leadership of Dr. George W. Brooks, is focusing on the role of psychiatrists in rehabilitation programs and activities of all kinds. It is concerned with such questions as, When and under what circumstances should the psychiatrist be captain of the team and when should he more properly serve as consultant? What defects in psychiatric education make proper functioning of a psychiatrist in rehabilitation programs difficult? As with many other committees, the relations of psychiatrists to members of other disciplines is a constant preoccupation.

The Committee on Research, guided by Dr. Milton Greenblatt, always very active in the planning and holding of regional research conferences, sponsored two of them this year, one at Yale University on "The EEG Correlates of Behavior," the other at the University of Southern California on "The Acute Psychosis." One report of a previous conference has been published and another is in press. McGill, Queen's and Duke Universities are now in the

midst of preparation for research conferences. A feature of this Committee's activities is the annual participation in the program of the American Association for the Advancement of Science. This year a symposium on "Genetics and Evolution in Relation to Human Behavior" was held in collaboration with the American Anthropological Association. Dr. Tigani el Mahi of WHO was selected to give the Adolf Meyer Lecture.

The Committee on Therapy, with Dr. Henrietta R. Klein as leader, has made a survey of attitudes toward the use of group psychotherapy, particularly where there are inadequate training facilities for interesting desirable personnel for the task. The survey points up the uneven training of many who use this technique, and the inadequate training facilities for those who wish to become proficient in it.

Of necessity this report barely suggests the large amount of work done by Committee members. To all of them should go our warmest thanks.

Dana L. Farnsworth, M.D.,
Coordinating Chairman.

REPORT OF COORDINATING CHAIRMAN: COMMITTEES ON COMMUNITY ASPECTS OF PSYCHIATRY

All the Committees of the APA this year made special studies of the Report of the Joint Commission on Mental Illness and Health in relation to their areas of concern and forwarded their conclusions to Council for consideration in the preparation of the APA statement on *Action for Mental Health*. The Committees also reviewed their terms of reference or an outline of their functions to contribute to the formulation of a Manual or Handbook on Committee and other Association operations prepared by the APA staff to be in pilot use for one year before final adoption.

The Committee on Academic Education, of which Dr. Dan Funkenstein is Chairman, has received approval of Council to organize a Conference between School Administrators and Psychiatrists to enhance a realistic attitude of each to the other. This group is concerned that psychiatrists do not generally appreciate the opportunities they have in improving mental health through work with the schools. Special attention is being given to the inclusion of school mental health work in residency training programs. The Committee has worked

with the Committee on Preventive Psychiatry on this matter.

The Committee on Disaster and Civil Defense, with Dr. Ed Kollar as Chairman, has had active and productive discussion with personnel of the Office of Civil Defense, culminating in a Report on the Utilization of Mental Health in the Event of Disaster. This, in turn, was made a part of the program of the Mental Hospital Institute, so that the findings could get immediate attention. The group is now turning to the more local problems of what the functions of practicing psychiatrists should be in disaster situations and how they should be incorporated in the medical planning of the area. They are also concerned with the problems of the education of the public regarding the hazards of thermonuclear disasters. As have many other committees, this group has given particular attention to working with the Committees of the District Branches.

The Committee on International Relations is of increasing importance in the APA and, with Dr. Jack Millet as Chairman, has had a number of thorny problems referred to it. In

addition, it has developed excellent program material for the annual meeting. The Round Tables, listed in the program, proved of great interest. Among the Scientific Exhibits was one concerning their subject.

The Committee on Leisure Time and its Uses, Dr. Paul Haun, Chairman, carefully sees to it that its members eliminate this problem by working very hard. Its *Newsletter* is helpful in keeping abreast of the field, and the orientation packet they sent contained background material of current information about this area. It planned an open meeting of the Committee for the annual meeting so that APA members could see how it goes about its work. It has formulated plans for bringing other professional organizations, both medical and lay, together to make better progress in meeting the problems incident upon shortened working hours and other issues. Publications are being prepared on various aspects of the problem, among others, that of leisure time in retirement.

National Defense, with Dr. John Caldwell as Chairman, meets with representatives of the Military Services to maintain relationships between our Association and the Military and to strengthen the psychiatric services of our armed forces during peace time. In addition, the group has been concerned with the issue of psychiatric standards for civil airmen.

The Committee on Occupational Psychiatry, of which Dr. Ralph Collins is Chairman, and to which he has furnished leadership for a long time, has had the pleasure of seeing the word "physical" eliminated from the title of the official governmental body, The President's Committee for the Employment of the Physically Handicapped, concerned with rehabilitation and employment of all the handicapped. This change is more than mere verbiage; it is a symbol of a broadened outlook which has been cultivated assiduously by your Committee for years. This group distributes a *Newsletter* concerning the field of psychiatry in industry. It has helped in the organization of conferences on mental health in industry. It composes the annual review on Occupational Psychiatry for our Journal. Its brochure, *Troubled People on the Job*, has sold 28,000 copies and returned a substantial profit to the APA. It is planning a companion piece designed for personnel directors.

The Committee on Preventive Psychiatry, with Dr. Henry Work as Chairman, is in the process of publishing a series of three papers for general practitioners on psychiatric alarm signals. As already noted, it has collaborated with the Committee on Academic Education and is now concerning itself particularly with

mental health opportunities in the elementary schools.

The Committee on Religion and Psychiatry, Dr. Earl Loomis, Chairman, has been reviewing the training of chaplains for service in mental hospitals and presented a Round Table discussion at the meeting. The subject was "The Significance of Religious Attitudes in Psychiatric Patients."

Dr. Seymour Rosenberg is the Chairman of the Committee on Veterans. It has been concerned with the maintenance of standards in this service and has worked with its leaders toward the end. It has proposed greater community involvement of the VA Hospitals and Clinics. In addition, it is studying the relationships between Medical Education and the VA with a view to maintaining and strengthening their relationships.

The last Committee of this group is that on Public Information of which Dr. Bob Morse is Chairman. No group in our Association except the Council and Executive Committee appears to me to carry the continuous load of consultation, publication, review and reference that this group does. The Glossary continues to sell in enormous numbers. It has been concerned with the best ways to offset the effects of Maisel's destructive article in the *Reader's Digest*, as noted in the *Newsletter*. It has arranged the facilities for the press here and encourages you to collaborate in the open press policy of the Association which this Committee originated and which has proved so successful.

Working with District Branch Committees has been mentioned in several of these reports. It is very easy to get into the frame of mind that says, "If they don't contact me, why should I contact them?" Particularly when one has an idea that seems worthy of study by a Committee at the level of the whole Association. May I plead with the Membership and particularly with Committees of the District Branches not to hesitate to contact your APA Committees, to feed them ideas, to offer to help them in collecting information or in formulating policy to be acted upon by Council. Committee cooperation and information-giving is not a one-way street. Two-way traffic will carry more stimulation to both local Committees and those of the Association as a whole.

Finally, I want to thank the members of the Committees, and particularly the Chairmen, for the excellent way in which they have met deadlines and accepted responsibilities throughout the year.

Paul V. Lemkau, M.D.,
Coordinating Chairman.

REPORT OF COORDINATING CHAIRMAN : COMMITTEES ON PROFESSIONAL STANDARDS

It should be clearly evident to anyone who has followed the trends in this Association that, in recent years particularly, there has been a progressively increasing activity on the part of its Committees. It should also be evident that the continuing responsibility with which the Committees are charged require attention throughout the year. It follows then that the two fixed occasions for the formal meetings of the Committees in the fall and at our annual meeting are merely highlights in an on-going process.

This statement is in the way of a preface to a formal report on the concerns and activities of your Committees. It should be obvious that the time permitted for their reports at the meeting barely allows a summary of the highlights of their work in progress. What follows, therefore, in a quantitative sense does scant justice to their zeal and the importance of the several areas to which they address their attention.

Inasmuch as the Association was a signatory to the creation of the Joint Commission on Mental Illness and Health, its report was a matter of paramount interest to all the Committees. Accordingly each of the Committees concerned with Professional Standards, in response to the charge of the President reviewed in detail the summary contained in *Action for Mental Health* and especially those subdivisions of it which properly are the purview of the Committee's function. Their individual thoughtful and detailed considerations were collated at the time of the fall 1961 meeting and subsequently reported to the Council at its November 1961 meeting. This leaven contributed to the Council's subsequent deliberations and action on the Report of the Joint Commission.

The Committee on Psychiatry and the Law : Under the able chairmanship of Dr. Kenneth G. Gray, the Committee, both collectively and through the enterprise of its individual members as liaison agents, has continued to relate its activities to the entire field of forensic psychiatry in both its civil and criminal aspects including the correctional field. In this regard, it is occupied with the compilation of information about diminished responsibility, tests of criminal responsibility in various jurisdictions and the formulation of data recommending desirable positions for the Association on such important matters as granting privilege to the communication between psychiatrists

and their patients and the question of psychologists acting as expert witnesses in criminal trials.

The tasks under the aegis of this Committee are for the most part long range. They require not only deliberative judgment of a high technical order but also a quality of generality which will make them useful to the many jurisdictions in which they have to be applied specifically.

Psychiatry and Social Work : Capably chaired by Dr. Ner Littner, this Committee necessarily is involved in an extensive network of liaison relationships with other Committees of this Association at the national level, 22 regional committees in the District Branches and the more important national co-professional organizations and councils. Stemming from this cooperative effort are plans and action on such matters as national and regional workshops, the establishment of mutually acceptable standards, the sponsorship of technical papers—in short the facilitated interchange which will insure the continuing harmonious relationships with this sister discipline.

Committee on Psychiatric Nursing : Dr. William Hall has given sage guidance to the extending work of this Committee. The problems posed by the broad areas of psychiatric nursing, as you know, ramify far beyond the professionally registered nurse to include concern for the recruitment, training and the standards of psychiatric aides and technicians. Numerically, these workers en masse constitute the largest single group of personnel who have direct and continuing contact with the psychiatric patient in the hospitals throughout the country. Accordingly, this Committee has been particularly interested and especially active in cultivating affiliations with nursing groups and associations on both national and local levels. This is reflected in its efforts to formulate plans for a Multidisciplinary Conference as well as its joint effort with the National League for Nursing in the publication *An Approach to Education of Psychiatric Nursing Personnel*.

Committee on Liaison with the Academy of General Practice : Under the able direction of Dr. Philip Solomon, the Committee has been engaged extensively in the co-sponsorship of teachers' colloquia, joint meetings with companion representatives of non-psychiatrist physicians groups, round table discussions and in efforts to implement more effective communication with affiliate Committees among the

District Branches. All of this work is directed to the end of collaboration with practicing physicians interested in the use of psychiatric techniques.

The Committee on Standards and Policies of Hospitals and Clinics : This Committee, under the skillful chairmanship of Dr. S. T. Ginsberg, is conducting an extensive study of standards and policies which encompass the entire range of private and public hospitals, clinics and services. This will eventuate in a revision of the Associations published Standards which was last revised in June 1958. Coupled with this enormous task the Committee is also inquiring into the criterion issues which lay behind these matters.

The Committee on Private Practice : Under the effective chairmanship of Dr. Joseph S. Skobba, the Committee has formulated recommendations to Council suggesting a modification of the traditional American Psychiatric Association—American Medical Association policy position with regard to the matter of fees for services to physicians and members of their families. Then too, the thorny matter of adequate and equitable insurance coverage for psychiatrists and their patients is of continuing concern to this Committee which represents the Association's interests vis-à-vis insurance carriers.

Committee on Relations with Psychology : This Committee with the skillful direction of its chairman Dr. Joel S. Handler continues to strive to establish and maintain amicable relations with clinical psychology through the agency of working jointly for a shared responsibility which will protect the interests of the patient, provide for mutually agreeable educational standards, effect a collaborative approach for the resolution of negotiable differences and the attainment of common goals at the District Branch as well as the national level. In concert with the American Medical Association it continues to seek a uniform and standardized basis for cooperation with all allied disciplines concerned with diagnosis and treatment of patients for whom physicians have a primary responsibility.

Committee on Nomenclature and Statistics : Under the able direction of its chairman, Dr. Henry Brill, this Committee has continued to address itself to the knotty problems inherent in the formulation of a uniform statistical classification of mental disorders. Their en-

deavors have required participation in both national and international conferences which have the hopeful expectation of producing a standardized system of notation adequate to the needs of the profession.

Committee on Liaison with American Hospital Association : Ably chaired by Dr. Raymond W. Waggoner, this Committee in its joint meetings with companion members of the American Hospital Association has expressed its feelings that nationwide studies into early, less expensive and more human forms of community care be made by the federal government. Similarly it is preoccupied with the very important matter of Blue Cross and other prepayment coverage for mentally ill patients. Related to this it sees within its purview matters relating to payment for care of medically indigent psychiatric patients in general hospitals.

Committee on Mental Hospitals : This Committee whose effective chairman is Dr. Lauren Smith has among its many interests and responsibilities matters relating to the Mental Hospital Institute. While the Committee feels that the participation of non-medical staff personnel is important it stresses the role of the Institute as a forum for the medical staffs of these hospitals. Since the Report of the Joint Commission is especially concerned with the core problem of the mentally ill in hospitals, its programmatic recommendations have been the focus of detailed analysis and critical review by this Committee. These have been made available to the Council.

The Ad Hoc Committee on Recognition for Psychiatric Service Personnel : Aided by the adroit chairmanship of Dr. Philip Reed, this Committee has not only formulated general plans of operation for the synthesis of the many disparate groups involved in the care and treatment of the mentally ill but also has launched pilot Mental Hospital Workshops in several states which hold the promise of workable models for future enterprises designed to solidify the morale of workers in these areas.

As Coordinating Chairman of these Committees on Professional Standards, I commend the expanded version of these reports which are on file in the Central Office, to your individual and collective attention, for they intimately concern the prime purpose of this Association.

Howard P. Rome, M.D.,
Coordinating Chairman.

FELLOWSHIP LECTURE
THE IMAGINATIVE AND THE IMAGINARY¹

NORTHROP FRYE, LL.D.²

I should like to begin by distinguishing two social contexts of the human mind. What I say in this connexion will be familiar enough to you, but I need to establish some common ground between an association of psychiatrists and a literary critic. Man lives in an environment that we call nature, and he also lives in a society or home, a human world that he is trying to build out of nature. There is the world he sees and the world he constructs, the world he lives in and the world he wants to live in. In relation to the world he sees, or the environment, the essential attitude of his mind is that of recognition, the ability to see things as they are, the clear understanding of what is, as distinct from what we should like it to be. This is an attitude often associated, sometimes correctly, with the reason. I should prefer to call it "sense," because it is a pragmatic and practical habit of mind, not theoretical, as reason is, and because it requires emotional as well as intellectual balance. It is the attitude with which the scientist initially faces nature, determined to see first of all what is there without allowing any other of his mental interests to cook the evidence. And it is, I should think, the attitude that psychiatry would take as the standard of the "normal," the condition of mental health from which mental illness deviates.

The other attitude is usually described as "creative," a somewhat hazy metaphor of religious origin, or as imaginative. This is the vision, not of what is, but of what otherwise might be done with a given situation. Along with the given world, there is or may be present an invisible model of something non-existent but possible and desirable. Imagination exists in all areas of

human activity, but in three of particular importance, the arts, love and religion. Where we see a landscape, a painter also sees the possibility of a picture. He sees more than we see, and the picture itself is the proof that he really does see it. The standard of reality does not inhere in what is there, but in an unreal and subjective excess over what is there which then comes into being with its own kind of reality. In love, we frequently hear the voice of sense in some such phrase as "I don't know what he sees in her," or vice versa. But it is generally admitted that here it is the subjective excess over reality which is appropriate. Similarly in religion. The New Testament defines faith as the evidence of things unseen: reality in religion is not "there": it is brought into being through a certain kind of experience. The religious life is, like the artist's picture, the manifestation of such experience in the world of sense, or what the gospel calls letting one's light shine.

The imaginative or creative force in the mind is what has produced everything that we call culture and civilization. It is the power of transforming a sub-human physical world into a world with a human shape and meaning, a world not of rocks and trees but of cities and gardens, not an environment but a home. The drive behind it we may call desire, a desire which has nothing to do with the biological needs and wants of psychological theory, but is rather the impulse toward what Aristotle calls *telos*, realizing the form that one potentially has. As desire, it works dialectically, separating what is wanted from what is not wanted. Planting a garden develops the conception "weed," a conception of vegetable value unintelligible except in the context of a garden.

The attitude we have just called sense can only distinguish itself from what is below itself. It can separate the real from the

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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imaginary, sense from nonsense, what is there from what is not there, but it has no criteria for recognizing what is above itself. It is a fact of experience that the world we live in is a world largely created by the human imagination. It is a part of sense's own recognition of reality that there must be a standard above sense, and one that has the power of veto over it. But it is the resemblance between vision and hallucination, ecstasy and neurosis, the imaginative and the imaginary, that impresses itself on sense. These resemblances are, of course, obvious and remarkable. The creative and the neurotic reactions to experience are both dissatisfied with what they see; they both believe that something else should be "there"; they both attempt to remake the world of experience into something more responsive to their desire. There are equally important differences, but in themselves the visions of the artist, the lover and the saint can only be regarded by sense as illusions, and all that sense can say about them is that certain significant types of activity seem to be guided by illusion.

We may therefore see the creative imagination as polarized by two opposite and complementary forces. One is sense itself, which tells us what kind of reality the imagination must found itself on, what is possible for it, and what must remain on the level of wish or fantasy. The other pole I shall call vision, the pure uninhibited wish or desire to extend human power or perception (directly or by proxy in gods or angels) without regard to its possible realization. This polarizing of creative power between vision and sense is the basis of the distinction between the arts and the sciences. The sciences begin with sense, and work toward a mental construct founded on it. The arts begin with vision, and work toward a complementary mental construct founded on it. As sense is incorporated in science, and as science continually evolves and improves, what sense declares to be impossible in one age, such as aeroplanes, may become possible in the next. The arts do not evolve or improve, partly because vision, being pure wish, can reach its conceivable limits at once. The aeroplane is a recent invention, but the vision that produced it was already ancient

in the arts when Daedalus flew out of the labyrinth and Jehovah rode the sky on the wings of a seraph.

But there may be considerable differences of emphasis within the arts themselves. Some cultures have a more uninhibited vision than other cultures: we find the most soaring imaginations, as a rule, in defeated or oppressed nations, like the Hebrews and the Celts. The attitude in the arts that we call "romantic," too, tends to stress vision rather than sense, and our ordinary use of the word indicates that a "romantic" approach to things may sometimes be in danger of a facile or rose-coloured idealization. On the other hand, a culture may be dominated by a feeling of proportion and limitation derived ultimately from what we have been calling sense, and a culture of this kind may achieve the clarity and simplicity that we associate with the word "classical." The most impressive example of such a culture is probably the Chinese, but in our Western tradition we tend naturally to think of the Greeks.

Greek culture was founded on the conception of *dike*, a contract entered into by gods, man and nature, where each accepted certain limitations. The working out of this contract was the process of *ananke* or *moira*, words that we translate, very loosely, as "fate." Zeus, in the *Iliad*, goes to bed with his consort Hera and nearly allows the Greeks to win the Trojan war, that being Hera's idea in getting him to bed, and scrambles out in time to help the Trojans, whom on the whole he prefers. But the contract says that the Greeks are to win in the end, and Zeus himself dares not ignore it. And if the contract binds even the king of gods and men, still more is man bound to avoid the proud and boastful spirit that the Greeks called *hybris* and saw as the main cause of tragedy; still more must he avoid excess and seek moderation and limits in all things. Know thyself, said the Delphic oracle, implying that self-knowledge was the final secret of wisdom. For man's mind is turned outward to nature, and his knowledge of himself is an inference from his knowledge of the much greater thing that is not himself.

The classical inheritance was incorporated into later Western culture: medieval

philosophers described the attitude we call sense as *prudential*, and gave it a central place in their moral hierarchy. Even so, the attitude of the age of Shakespeare to sense and imagination was very different from ours, and perhaps we can learn something about our own age by examining the differences.

When Shakespeare's Theseus, in *A Midsummer Night's Dream*, classified "The lunatic, the lover, and the poet," as being "of imagination all compact," he was expressing an Elizabethan commonplace, and one usually summed up in the word "melancholy." Melancholy was a physiological disturbance caused by the excess of one of the four humours, but this excess in its turn was the cause of emotional and mental illness. Body and mind were therefore treated as a unit: a collection of remarkably cheerful songs bears the title "Pills to Purge Melancholy." There were two kinds of melancholy. One was a disease; the other was a mood which was the prerequisite of certain important experiences in religion, love or poetry. Love and poetry were combined in the literary convention within which the bulk of poetry in that age was produced. A young man sees his destined mistress and instantly falls a prey to melancholy. He stays awake all night and keeps his house dark all day; he mopes, sighs, forsakes his friends, turns absent-minded and slovenly in his appearance. More to the point, he writes poetry incessantly, complaining of his lady's inflexibility, cruelty and disdain. It was understood that a poet could hardly get properly started as a poet without falling in love in this way, and that a lover was hardly doing his duty by his lady without leaving a stack of lyrical complaints at her door. In the background was the religious experience on which this conventional love was modelled, and of which it was to some extent a parody: the experience of becoming aware of sin and the wrath of God, of the necessity for supplicating grace and acceptance.

Melancholy of this kind was certainly an emotional disturbance: it could become a mental disease, or at least there are many love poems threatening madness or suicide to impress an obdurate mistress. Normally, however, such disturbance was more in the

nature of a calculated risk, undertaken for the sake of a certain intensity of experience. It was a kind of male pregnancy, a creative state with some analogies to illness. But melancholy as a disease was equally familiar, and Shakespeare's audience would have recognized its characteristic symptoms in Hamlet. The indecision, the inability to act through "thinking too precisely on th' event," the clairvoyant sense of the evil and corruption of human nature, the addiction to black clothes, the obsession with death both in others and in oneself, the deranged behavior that could easily modulate into actual madness with little outward change, were stock attributes of melancholy. So too was the fact that Hamlet, though not a poet, as he tells Ophelia, shows many similarities to the poetic temperament. Polonius, who has literary tastes, has a literary explanation for Hamlet's melancholy: he is in love with Ophelia; but the audience has already been given a more convincing reason. Of course a tendency to melancholy would be greatly increased if one had been born under either of the two melancholy planets, Saturn and the moon, which tended to make one saturnine or lunatic. Nations as well as individuals had their tutelary planets, and the fact that England's was the moon was responsible for many jokes, including some from Hamlet's grave-digger.

Not only the most fascinating play of the period, but its greatest prose work (in England), has melancholy for its theme. Burton's *Anatomy of Melancholy* is an exhaustive analysis of the causes, symptoms, treatment and cure of melancholy, with two enormous appendices on love melancholy and religious melancholy. Burton was an Oxford don, and his chief amusement is said to have been going down to the Isis river and listening to the bargemen swear. The story may be true, or it may have been invented by someone who noticed that the qualities of Burton's prose, with its vast catalogues, piled-up epithets, Latin tags, allusiveness and exhaustive knowledge of theology and personal hygiene, are essentially the qualities of good swearing. Burton assumes rather than discusses the connexion of melancholy with creative power: being a scholar himself, like Hamlet, he associates it rather with the scholarly temperament,

and includes a long digression on the miseries of scholars. On religious melancholy his position is simple: one can best avoid it by sticking to the reasonable middle way of the Church of England, avoiding the neurotic extremes of papist and puritan on either side. But in love there is no reasonable ground to take, for its very essence is illusion. On this point we had better let Burton speak for himself:

Every lover admires his mistress, though she be very deformed of herself, ill-favoured, wrinkled, pimpled, pale, red, yellow, tanned, tallow-faced, having a swollen juggler's platter face, or a thin, lean, chitty face, have clouds in her face, be crooked, dry, bald, goggle-eyed, blear-eyed, or with staring eyes, she looks like a squis'd cat, hold her head still awry, heavy, dull, hollow-eyed, black or yellow about the eyes, or squint-eyed, sparrow-mouthed, Persian hook-nosed, have a sharp fox-nose, a red nose, China flat, great nose, *nare simo patuloque*, a nose like a promontory, gubber-tushed, rotten teeth, black, uneven, brown teeth, beetle-browed, a witch's beard, her breath stink all over the room, her nose drop winter and summer, with a Bavarian poke under her chin, a sharp chin, lave-eared, with a long crane's neck, which stands awry too, *pendulis mammis*, "her dugs like two double jugs," or else no dugs, in that other extreme, bloody-fallen fingers, she have filthy, long unpared nails, scabbed hands or wrists, a tanned skin, a rotten carcass, crooked back, she stoops, is lame, splay-footed, "as slender in the middle as a cow in the waist," gouty legs, her ankles hang over her shoes, her feet stink, she breed lice, a mere changeling, a very monster, an oaf imperfect, her whole complexion savours, an harsh voice, incondite gesture, vile gait, a vast virago, or an ugly tit, a slug, a fat fustilugs, a truss, a long lean raw-bone, a skeleton, a sneaker (*si qua latent meliora puta*), and to thy judgment looks like a mard in a lanthorn, whom thou couldst not fancy for a world, but hatest, loathest, and wouldest have spit in her face, or blow thy nose in her bosom, *remedium amoris* to another man, a dowdy, a slut, a scold, a nasty, rank, rammy, filthy, beastly quean, dishonest per-adventure, obscene, base, beggarly, rude, foolish, untaught, peevish, Irus' daughter, Ther-sites' sister, Grobian's scholar; if he love her once, he admires her for all this, he takes no notice of any such errors or imperfections of body or mind, *Ipsa haec Delectant, veluti Balbinum polypus Agnae*; he had rather have her than any woman in the world.

Renaissance writers, when they speak of the imagination, are interested chiefly in its pathology, in hysteria and hallucination and the influence of the mind on the body. This is true of Montaigne's essay on the force of imagination, where an example of what may be called psychological vampirism comes from his own experience:

Simon Thomas was a great Physitian in his daies. I remember upon a time comming by chance to visit a rich old man that dwelt in *Tholouse*, and who was troubled with the cough of the lungs, who discoursing with the said *Simon Thomas* of the meanes of his recoverie, he told him, that one of the best was, to give me occasion to be delighted in his companie, and that fixing his eyes upon the livelines and freshness of my face, and setting his thoughts upon the jolitie and vigor, wherewith my youthfull age did then flourish, and filling all his senses with my flourishing estate, his habitude might thereby be amended, and his health recovered. But he forgot to say, that mine might also be empaired and infected.

At that stage of scientific development, scientific and occult explanations could be given of the same phenomena, and hysteria and hallucination might be explained either as mental disorders or as caused by witchcraft or diabolical suggestion. Burton gives a good deal of attention to such matters, though with a detachment toward them unusual in his age. He has read all the books about devils and witches, and has gathered from them that there is more theorizing than solid knowledge of the subject. He drops a hint that belief in their existence is convenient for an organized priesthood, and continues:

Many such stories I find amongst pontifical writers, to prove their assertions; let them free their own credits; some few I will recite in this kind out of most approved physicians. *Cornelius Gemma, lib. 2 de nat. mirac. cap. 4*, related of a young maid, called Katherine Gualter, a cooper's daughter, *anno 1571*, that had such strange passions and convulsions, three men could not sometimes hold her; she purged a live eel, which he saw, a foot and a half long, and touched himself; but the eel afterwards vanished; she vomited some twenty-four pounds of fulsome stuff of all colours, twice a day for fourteen days; and after that she voided great balls of hair, pieces

of wood, pigeon's dung, parchment, goose dung, coals; and after them two pound of pure blood, and then again coals and stones, of which some had inscriptions, bigger than a walnut, some of them pieces of glass, brass, etc., besides paroxysms of laughing, weeping and ecstasies, etc. *Et hoc (inquit) cum horrore vidi*, "this I saw with horror." They could do no good on her by physic, but left her to the clergy.

Burton is aware that he is describing a case of hysteria; what he is not sure of is whether it was the doctor or the patient who had it, and the reader is left with the feeling that Burton regards hysteria as a highly contagious illness.

We notice that the association of poetry, love and melancholy extends only so far. The lover's melancholy was of no more lasting importance in his life than a contemporary teen-ager's crush on a movie star: it was understood to be normal, even expected, of youth, and it had nothing to do with the serious business of marriage which was being arranged for him by his parents. Religious melancholy would turn instantly to the church, and be restored to normality by the sacraments and disciplines of that church. The kind of lyrical poetry produced by the lover's melancholy, too, was regarded as relatively minor poetry, appropriate to young poets learning their trade or to well-born amateurs who were merely using poetry as a status symbol. The major poet, who had advanced to the major, or heroic genres of epic and tragedy, was no longer inspired by melancholy but was working in the same general educational area as the philosopher, the jurist or the theologian. Thus the difference between the creative imagination of the professional artist and the practical skill of other professional men was minimized as far as possible. The great epic poet of Shakespeare's age, Edmund Spenser, includes in the second book of his *Faerie Queene* an allegory of the human body and mind, which he calls the House of Alma, and compares to a building. He explores the brain, and finds it divided into three parts. At the back of the brain is an old man called Eumnestes, good memory, who is concerned with the past. In the middle is the judgement, which is concerned with the present. In front is a melan-

choly figure named Phantastes, born under Saturn, concerned not so much with the future as with the possible, or rather with that uncritical kind of perception which cannot clearly distinguish the real from the fanciful:

His chamber was disappointed all within,
With sundry colours, in the which were writ

Infinite shapes of things dispersed thin;
Some such as in the world were neuer yit,
Ne can deuized be of mortall wit;
Some daily scene, and knowen by their names,

Such as in idle fantasies doe flit:
Infernall Hags, *Centaurs*, feendes, *Hippodames*,

Apes, Lions, Aegles, Owles, fooles, louers,
children, Dames.

The poetic faculty, it is important to notice, does not belong to this aspect of the brain: it belongs to the judgement in the middle, which also produces philosophy and law:

Of Magistrates, of courts, of tribunals,
Of commen wealthes, of states, of policy,
Of Lawes, of iudgements, and of decretals;

All artes, all science, all Philosophy,
And all that in the world was aye thought wittily.

Spenser had a disciple in the next generation, Phineas Fletcher, who produced a long didactic poem called *The Purple Island* (i.e., the body of man, traditionally formed of red clay). Half of it consists of an expansion of Spenser's House of Alma, an exhaustive survey of anatomy under the allegory of a building. Fletcher finds the same three divisions in the brain that Spenser found: he seems in fact to be merely cribbing from Spenser, but when he comes to Phantastes he makes a significant change:

The next that in the Castles front is plac't,
Phantastes hight; his yeares are fresh and green,

His visage old, his face too much defac't
With ashes pale, his eyes deep sunken been
With often thoughts, and never slackt intention:

Yet he the fount of speedy apprehension,
Father of wit, the well of arts, and quick invention.

Here, we see, Phantastes is the source of the arts, and of the creative aspect of the mind generally. The change may be sheer inadvertence, or it may mean that an actual change of emphasis is beginning to make itself felt on the level of informed but unspecialized opinion represented by such a poem. If so, it was not for another century that the change becomes generally perceptible.

The refusal of Renaissance thinkers to carry through the association of the creative and the neurotic temperaments is the result of a certain view of the world that was ultimately religious in origin. They thought of human culture and civilization as an order of nature or reality separable from, and superior to, the ordinary physical environment. This latter world is theologically "fallen"; man entered it with Adam's sin, and is now in it but not of it. He does not belong in physical nature like the animals and plants; he is confronted with a moral choice, and must either rise above nature into his own proper human home, or sink below it into sin, the latter a degradation that the animals cannot reach. The crux of the argument, however, is that the higher human order was not created by man: it was created by God and designed for man. Adam awoke in a garden not of his planting, a human world pre-established and ordered by a divine mind. In Milton's *Paradise Lost* Adam and Eve are suburbanites in the nude, and angels on a brief outing from the City of God drop in for lunch. But the City of God was there, along with another city in hell, long before the descendants of Cain started imitating them on earth. The corollary of this view was that the divine intention in regard to man was revealed in law and in the institutions of society, not in the dreams of poets. All ancient societies tend to ascribe their laws and customs to the gods, and, as the name of Moses reminds us, the Judaeo-Christian tradition is no exception.

We said at the beginning that the order of human existence represented by such words as culture and civilization has been established by man. This statement may seem obviously true now, but it is only within the last two centuries that it has been generally accepted. In earlier cen-

turies, when man was not regarded as the creator of the human order, it could even be disputed whether the arts themselves, poetry, painting, architecture, were genuinely educational agencies or not. Naturally the poets insisted that poetry at least was; for most, however, obedience to law, the habit of virtue, and the disciplines of religion were far safer guides than the arts.

Even those who were sympathetic to poetry, in fact even the poets themselves, placed strict limits on human creative power. The poet was urged to follow nature, and the nature he was to follow was conceived, not as the physical world, which could only be copied at second hand, but as an order of reality, a structure or system of divine ordinance. If one believes, as Sir Thomas Browne says in his *Religio Medici*, that "nature is the art of God," the art of man which follows nature does not transform the world but merely comes to terms with it. The social results of such a view are, of course, intensely conservative. Whatever is of serious importance, in the arts or elsewhere, serves the interests of the community of church and state; whatever is immature is also divisive and anarchic, and exalts the individual at the expense of society. The imaginary belongs to the melancholy individual and his whims; the imaginative is incorporated into a natural and human order established by divine decree.

The eighteenth century was the period in which this view of the imagination struggled with, and was finally defeated by, an opposed conception which came to power in the Romantic movement. At the beginning of the century, we have Swift, for whom established authority in church and state was the only thing in human life strong enough to restrain the desperately irrational soul of man. In this day the conception of "melancholy" was out of fashion, but another ancient medical notion of "spirits" or "vapors" rising from the loins into the head was still going strong. For Swift, or at least for the purposes of Swift's satire, all behavior that breaks down society is caused by an uprush either of digestive disturbances or of sexual excitement into the head. Swift's chief target is the left-wing Protestantism which in the seventeenth century had carried religious melancholy to the

point of replacing the authority of the Church with private judgement and had made a virtue even of political rebellion. But he finds the same phenomena in the political tyrant who substitutes his own will for the social contract, or the poet who allows his emotions to take precedence over communication. "The very same principle," he says, "that influences a bully to break the windows of a whore who has jilted him, naturally stirs up a great prince to raise mighty armies, and dream of nothing but sieges, battles and victories." In his *Discourse of the Mechanical Operation of Spirit* Swift says that three sources of abnormal behavior have been generally recognized. One is of divine origin, or revelation, one of demonic origin, or possession, and one of natural origin, which produces such emotions as grief and anger. To these he proposes to add a fourth, which is artificial or mechanical, and is essentially a transfer of sexual energy to the brain, where it produces lofty rationalizations of erotic drives. Or, as Swift says with a nice calculation of *doubles entendres*:

... however Spiritual Intrigues begin, they generally conclude like all others; they may branch upwards toward Heaven, but the Root is in the Earth. Too intense a Contemplation is not the Business of Flesh and Blood; it must by the necessary Course of Things, in a little Time, let go its Hold, and fall into Matter. Lovers, for the sake of Celestial Converse, are but another sort of *Platonicks*, who pretend to see Stars and Heaven in Ladies Eyes, and to look or think no lower; but the same *Pit* is provided for both; and they seem a perfect Moral to the Story of that Philosopher, who, while his Thoughts and Eyes were fixed upon the *Constellations*, found himself seduced by his *lower Parts* into a *Ditch*.

Swift is a satirist, and the attitude he takes is congenial to satire. For satire usually takes the point of view of sense: it requires a standard of the normal against which the absurd is to be measured, and, like sense, does not distinguish what is above it from what is below it. Such satire speaks with the voice of the consensus of society, and society can protect itself but cannot surpass itself. Hence a great age of satire like the early eighteenth century is likely to represent a culture which has

clearly defined views about madness, but feels fairly confident about its own sanity.

But even as Swift was writing there was beginning one of those great changes in cultural attitude, where we cannot see any origin or clear development of the change, but realize after a certain time that we are looking at a different world. As this different world, which came in with Romanticism, is essentially our world, we may take a moment to characterize some of the changes. Slowly but steadily the doctrine of the divine creation of the human order fades out, not perhaps as a religious conception, but as a historical and literal fact taking place at a specific point in past time. Man thus comes to be thought of as the architect of his own order, a conception which instantly puts the creative arts in the very centre of human culture. This new emphasis on the primacy of the arts in social life is clear in the statements and assumptions of the Romantic poets. The conception of nature as a divine artefact also fades out, and nature is thought of, not so much as a structure or system presented objectively to man, but rather as a total creative process in which man, the creation of man, and the creation of man's art, are all involved. For the Romantics, the poet no longer follows nature: nature works through the poet, and poems are natural as well as human creations. But if man has created his own order, he is in a position to judge of his own achievement, and to measure that achievement against the kind of ideals his imagination suggests. In Rousseau we meet the doctrine that much of human culture and civilization has in fact been perverse in direction, full of inequalities caused by aggression which have blotted out the true form of human community. This latter Rousseau saw as a society made up of a "general will" of free and equal individuals. And as society can speak only with the middle voice of sense, and cannot by itself distinguish the creative from the neurotic, we thus arrive at two typically Romantic, and therefore modern, conceptions.

First, any genuinely creative individual is likely to be regarded by society as anti-social or even mad, merely because he is creative. The association of the creative and the neurotic, being largely imposed on the

artist by society, places creative abilities under a curse, a capacity of misunderstanding that may blight or destroy the artist's social personality. Baudelaire symbolizes the creative spirit by an albatross, so superbly beautiful in its lonely flight, so grotesquely awkward and comic when captured and brought into the view of a human society. If we compare the target of Swift's satire, the melancholy individual creating his own poetry and religion out of a powerful erotic stimulus, with the figure of Byron a century later, we can see how completely cultural standards have reversed themselves. Byron like Swift was a satirist, but his satire does not speak with the voice of society against the erratic individual: it speaks with the voice of the individual against society, and assumes the individual's possession of a set of standards superior to those of society. This leads us at once to the second new conception: a society may judge an individual to be mad because that society is actually mad itself.

The notion that the whole of mankind has been injured in its wits as the result of Adam's fall was familiar enough, and is the basis for a great deal of satire, including that of Burton's *Anatomy*. In the seventeenth century the poet and dramatist Nathaniel Lee, a contemporary of Dryden, remarked when confined to a madhouse: "They said I was mad, and I said they were mad, and, damn them, they outvoted me." Fifty years later Hogarth, depicting the last stage of the rake's progress in the madhouse of Bedlam, sticks an enormous penny on the wall, indicating that the whole of Britannia is as mad as the rake. But the notion that madness can be a social disease affecting a specific society at a specific time is, I think, not older than the French Revolution. At that time those on one side of politics saw a whole society gone mad in revolutionary France; those on the opposite side saw an equally dangerous delusion in accepting the status quo. This social dimension of madness is, to put it mildly, still with us in the century of Fascism, Communism, and the parasites in the democracies who devote themselves to spreading hysteria.

Of all the great artists of the Romantic movement, the most interesting for our

present purposes is William Blake. Blake had practically no influence in his own day, and his reputation during his life and for long after his death was that of a lunatic. Gradually it was realized that he was a great creative genius, and that if the normal attitude regards him as a lunatic, so much the worse for the normal attitude. Blake himself had very clear notions of what constituted mental health and mental disease. For him, mental health consisted in the practice of the imagination, a practice exemplified by the artist, but manifested in every act of mankind that proceeds from a vision of a better world. Madness, for Blake, was essentially the attitude of mind that we have been calling sense, when regarded as an end in itself. The world outside us, or physical nature, is a blind and mechanical order, hence if we merely accept its conditions we find ourselves setting up blind and mechanistic patterns of behaviour. The world outside is also a fiercely competitive world, and living under its conditions involves us in unending war and misery. Blake's lyrics contrast the vision of experience, the stupefied adult view that the evils of nature are built into human life and cannot be changed, with the vision of innocence in the child, who assumes that the world is a pleasant place made for his benefit. The adult tends to think of the child's vision as ignorant and undeveloped, but actually it is a clearer and more civilized vision than his own.

Blake interpreted the ancient myths of titans, giants and universal deluges to mean that man had in the past very nearly succeeded in exterminating himself. He warns us that this danger will return unless we stop accepting experience and shift our energies to remaking the world on the model of a more desirable vision. This model Blake found in the Bible, but in his reading of the Bible he identifies God with the imaginative or creative part of the human mind. Thus his vision is quixotic in the strict sense, seeing the world about him as having fallen away from the vision of the Word of God, just as Don Quixote saw the world of his day as having fallen away from a vision of chivalry which he found in his library.

Don Quixote is of course another great Renaissance masterpiece in which imagina-

tion is treated primarily as diseased vision. It would be easy to see in Quixote a relatively harmless example of a very sinister type, one of the line of paranoiacs culminating in Hitler who have attempted to destroy the present on the pretext of restoring the past. But we soon realize that there is something better than this in Quixote, something that gives him a dignity and pathos which he never loses in his wildest escapades. He is followed by Sancho Panza, who is so completely an incarnation of sense that only one thing about him is mysterious: the source of his loyalty to Quixote. We get a clue to this near the beginning of the book. Quixote and Sancho meet a group of peasants who invite them to share their lunch of goat's milk and acorns. Acorns were traditionally the food of those who lived in the golden age, that legendary time of simplicity and equality which has haunted so many discussions of human culture from Plato's *Laws* to Rousseau's *Social Contract*. Don Quixote is prompted by the sight of acorns to make a long speech about the golden age, first inviting Sancho to sit beside him, quoting from the Bible the verse about the exalting of the humble. He says that it is his mission to restore the golden age, which is, incidentally, exactly what Blake said the purpose of his art was. True, elsewhere he tells Sancho that the golden age would soon return if people would only see things as they really are, and not allow themselves to be deluded by enchanters who make giants look like windmills. But we can see that Quixote's obsession about chivalry is not so much what he believes in as what he thinks he believes in, a childish world where dreams of conquered giants and rescued damsels keep coming true, and which has thrust itself in front of his real social vision. This latter is a vision of simplicity and innocence, not childish but childlike, the element in Quixote that makes him courteous, chaste, generous (except that he has no money), intelligent and cultured within the limits of his obsession, and, of course, courageous. It is the solid core of moral reality in the middle of his fantasy that holds the loyalty not only of Sancho but of the readers of his adventures. For this wistful sense of a golden age, lost but still possible, the child's

vision which the Gospel tells us is so dangerous to lose, is something that makes Quixotes of us all, and gives our minds, too, whatever dignity they may possess.

In Part Two of the book, Quixote and Sancho come into the dominions of a duke who has read Part One, and who, to amuse himself, makes Sancho the governor of an island. We are perhaps less surprised than he to learn that Sancho rules his island so honestly and efficiently that he has to be pulled out of office in a hurry before he starts to disintegrate the Spanish aristocracy. We are even less surprised to find that Quixote's advice to him is full of gentle and shrewd good sense. The world is still looking for that lost island, and it still asks for nothing better than to have Sancho Panza for its ruler and Don Quixote for his honoured counsellor.

In the fifth book of Wordsworth's *Prelude*, the great epic poem in which he describes the growth and formation of his own very modern mind, Wordsworth deals with the influence that his reading has had on him. As a student he was interested in mathematics and literature, and the literary works he particularly mentions are the Arabian Nights and *Don Quixote*. He tells us that he (at least we may assume it was he) fell asleep while reading *Don Quixote*, and had a strange dream. He saw an Arab horseman, who was also Don Quixote, riding over the sands of a desert carrying a stone and a shell, which were also books. The books were Euclid and an unnamed book of poetry: in other words they were the keys to the worlds of words and numbers, the two great instruments that man has invented for transforming reality. The Arab, or "Semi-Quixote" as Wordsworth calls him, is fleeing from some unimaginable catastrophe, which the poet calls a deluge, and is going to bury these two books to keep them safe until the disaster is past. Wordsworth says that he often reverts to this dream, and that he has felt

A reverence for a Being thus employ'd ;
And thought that in the blind and awful lair
Of such a madness, reason did lie couch'd.
Enow there are on earth to take in charge
Their Wives, their Children, and their virgin
Loves,

Or whatsoever else the heart holds dear ;
Enow to think of these ; yea, will I say,
In sober contemplation of the approach
Of such great overthrow, made manifest
By certain evidence, that I, methinks,
Could share that Maniac's anxiousness, could
go
Upon like errand.

Perhaps in the age of the useless bomb-

shelter it may be easier for us than it was
even for Wordsworth to understand that if
the human race is to have any future at all,
it can only obtain it through a concern for
preserving its powers of creation which it
will be difficult, if not impossible, to dis-
tinguish clearly from a "Maniac's anxious-
ness."

A SURVEY OF MENTAL DISEASE IN AN URBAN POPULATION

VII. AN APPROACH TO TOTAL PREVALENCE BY RACE

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For centuries men have sought and described biological differences between various groups—national, religious and ethnic, class and caste, and in and out groups. All too frequently observed or imagined biological differences, however minor, have been used to justify hatred, oppression, exploitation and even genocide. Recent and present history provide ample testimony to the potency of such doctrines.

The unfortunate abuse by mankind of observable differences between groups does not, however, justify neglecting the scientific importance of studying, understanding and even predicting the consequences of such differences. With the development of newer and more reliable epidemiologic and ecologic tools, more recent scientific investigations have sought psychological and sociocultural mechanisms for every kind of biological and related type of difference between groups. This has been an extremely fruitful area of research, with the great majority of studies now tending in the direction of finding fewer and fewer innate differences between groups.

By far the most commonly studied group in this country has been the Negro. This is hardly surprising in view of his unique history, the passions aroused by this history, his condition in life, the recent assertions of his rights to the American dream, and the fact that he constitutes the largest and most highly visible minority group. This unique combination of circumstances has consequently attracted researchers with varying combinations of motivations and resulted in findings that probably more often than not represent a justification of the investigator's own attitudes on the subject.

This paper attempts to deal with the problem of the prevalence of mental diseases among an urban population of nonwhites and to compare, as dispassionately and objectively as possible, these rates with

those for whites.

The earliest census which contained data on white and nonwhite rates into mental institutions was the 1840 census. The rates contained therein indicated that Northern nonwhites had substantially higher rates than Southern nonwhites. Pro-slavery protagonists found this disparity grist for their mill(1). They concluded that this discrepancy indicated two things. First, that the innately inferior Negro could not withstand the stress of competition in a comparatively freer society. Second, that nonwhites were better understood and treated in the South and hence, the lower insanity rate. The fact of the matter was that gross inaccuracies had occurred in the census data. For example, Negro rates in some communities were so high that they actually exceeded the total Negro population in the community. The physician who had originally published a paper based on these rates eventually voluntarily retracted his published statements(2). Despite these inaccuracies, and the obvious biases inherent in using first admissions for incidence rates, these and similar data continued to be used.

By 1880, the issue of white versus nonwhite rates and regional variations in the latter was broadened to include foreign versus native-born rates. The stimulus for the latter, of course, was the increasing entry into this country of Irish and Catholic population and the hostility this immigration aroused. The 1880 census stated, for example, that, "the extraordinary ratio of insanity among the foreign-born has attracted wide attention." The report continued by asserting that "the question of age has a bearing upon the comparative number of the insane who are of native and of foreign birth" and that "the difference disappears, in large measure, when, instead of comparing the number of insane with the total population, we compare it with the population above the age at which insanity ordinarily occurs, that is to say above the age of 15 years"(3).

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In time the immigration question, because of increasingly severe restrictions on the number who could enter, became academic(4). The question of the existence of a racial disparity in rates remains, and if anything, is as heated as ever. As late as 1957 Wilson and Lantz published a paper on this subject which received a great deal of publicity(5). They contended in this paper that there has been a tremendous increase in the nonwhite mental hospital admission rate in the past 40 years and attempted to interpret this increase in terms of the "uncertainties of the Negro race as they cross from one culture to another." Wilson and Lantz state that, "Cultural changes which are forced on people against their will, by fiat or by authority from outside or above, have been found by the experts of the U. N. to produce major disturbances of mental health." They also quote Margaret Mead to the effect that "the change must be made slowly" and that in the recent past little has been done "to protect the Negro or the white man as this change in relationship is brought about," that is, as the process of integration proceeds.

These conclusions imply a culture shock or cultural breakdown theory and are therefore largely inapplicable to the Negro who shares the same cultural heritage as other Americans. The fact of the matter is that there is almost no vestige of African culture left among the American Negroes. Rarely has such complete deculturation and reculturation ever occurred in world history. To implicitly liken the primitive African tribesman to the American Negro in a culture shock context is about as realistic as comparing a middle class, urban dweller undergoing analysis to his preliterate ancestors.

Wilson and Lantz also take other undue liberties in interpreting their data. For example, they cite the higher rate of jail commitments for Negroes in Virginia to show "that the Negro community exhibits the other characteristic of a frustrated community, namely crimes of aggression." Not a word is said about the legal and enforcement problems of majority implemented laws or any of the many other factors which sociologists and criminologists have pain-

stakingly documented over the years. Finally, Wilson and Lantz cite the high rate of nonwhite admissions to state hospitals in the North to imply that it is the unstable nonwhites who are likely to migrate North. The fact that nonwhites in the North are overwhelmingly urban while those in the South remain predominately rural or small town dwellers and the implications of this seem to them of no concern. Nor, by way of illustration does the relative availability and adequacy of hospitals in the two regions seem to mean much to them.

Any number of such items can be extracted, discussed and questioned. These, and the other less questionable findings, all depend on the use of first admission data. This paper hopes to overcome some of these difficulties by examining prevalence rates by race using methods described below.

ORIGINS OF DATA

The data to be presented on the prevalence of mental disorders in Baltimore were derived from 4 sources. These sources constitute an approach to a relatively complete assessment of the reported, unreported, and institutionalized cases of mental disorder.

Data on the prevalence of these chronic disorders among noninstitutionalized persons were in part derived from the Commission on Chronic Illness which conducted a questionnaire investigation supported by clinical evaluations of a large number of carefully selected persons in the community.

1. *The Commission on Chronic Illness Study*. The Commission on Chronic Illness, an independent agency founded jointly by The American Medical Association, the American Hospital Association, the American Public Health Association, and the American Public Welfare Association in 1952-1955, conducted a survey of the prevalence of chronic disorders in Baltimore. The research design and references to the various phases of the study, the sample characteristics, and the biases and limitations are detailed in the fourth volume of *Chronic Illness in the United States*(6). The data included in this report are based on a stratified sample of approximately 1,200 individuals, of whom 809 responded and were given

thorough clinical and laboratory evaluations at the Johns Hopkins Hospital, as well as consultations with the relevant specialists when necessary. By the proper application of weights, the 809 evaluatees were found to be distributed almost identically by age, color, and sex with the Baltimore population, so that the rates to be described within certain limitations may be deemed representative of the noninstitutionalized Baltimore population(7-10). A miscellaneous group of childhood behavior disorders, mild mental defect, alcoholism, and other minor personality or behavior difficulties which had an adjusted rate of 15.2 per 1000 is excluded from this report because it was deemed that the judgments of both examining physicians and psychiatrists were probably not very reliable, and better sources of data exist in other studies.

2. *Study of Prematures.* In another study there were 500 prematurely born infants and an almost similar number of full term controls born in Baltimore in 1953 and examined at approximately 40 weeks of age at the Johns Hopkins School of Hygiene(11). This sample was adjusted to the Baltimore infant population by controlling for the rates of prematurity, race, sex, and socioeconomic status. On this basis, a total rate of 15 per 1000 mentally defective infants was derived(12). These are the organically impaired mental defectives and do not contain among them the socioculturally and educationally retarded children. Inclusion of the latter would result in the estimates of 4% to 14% found in the school-age population.²

It might be added that re-examination of the children at 3 years of age confirmed these rates and also indicated the high reliability of the infant examination procedures. While the prevalence rate of 15 per 1000 is for a pre-school age population, because little or no improvement in intellectual functioning can be expected for this population, it is not too unsafe to use

it for the total population. Since a number of these cases may be expected to be removed by death, clinical judgment leads us to believe that the rate constancy of this diagnostic category will result from the addition of brain-damaged individuals who at later ages will be pushed down into the definitely defective and severely impaired group by the interaction of sociocultural and organic factors.

3. *Institutional Rates.* A third source of data on mental disorders were those Baltimore residents hospitalized as of June 1, 1954, and consisting of all of the individuals in the 3 state mental institutions admitting patients from Baltimore and from private hospitals. It was unfortunate that hospital census recording did not include city of residence, so the data had to be secured laboriously by hand from the hospital records.

4. *Veterans Administration Facility Rates.* A frequently ignored source of data, particularly when institutionalized cases are considered, are the Veterans Administration facilities. This is a common source of bias, particularly when sex and age differences are considered. We were fortunate in being able to use the data of a 50% systematic sample of the Baltimore residents of the Veterans Hospital serving the Baltimore area.

FINDINGS

1. *Psychoses.* The white and nonwhite rates for the psychoses, which are presented in Table 1, would appear to refute the Wilson and Lantz hypothesis. These rates indicate that the nonwhite state hospital rates are indeed higher than those for whites. For the Baltimore population the nonwhite rate is 75% greater than the white rate. However, this is not by any means the whole story. White rates exceed nonwhite rates in both private and V.A. hospitals. The biggest discrepancy of all occurs in the noninstitutional rate. At this level, the white rate is over ten times as great as the Negro rate. Assuming the equal reliability of the data obtained from all of these sources—and clearly this is the most parsimonious assumption—the overall rate for whites in Baltimore is 9.46 per 1000 while the Negro rate is not significantly different

² Since these sociocultural retardates are not mentally ill or primarily medical problems, it was deemed inadvisable to include them in any total prevalence picture. Infancy is thus the ideal age during which organic impairment can be differentiated from the psychologic effects of an impoverished and deprived environment.

TABLE 1
Prevalence of Mental Disorder in Baltimore as a Rate per 1000
Persons by Diagnosis, Race, and Source of Data

DIAGNOSIS	NON-INSTITUTIONAL				STATE HOSPITALS †				PRIVATE HOSPITALS †				V.A. HOSPITALS ‡				TOTAL	
	TOTAL RATE	NO. OF CASES	RATE		NO. OF CASES	RATE	NON- WHITE	NON- WHITE	NO. OF CASES	RATE	NON- WHITE	NON- WHITE	NO. OF CASES	RATE	NON- WHITE	NON- WHITE	TOTAL RATE	
			WHITE	NON-WHITE														WHITE
Psychoses	8.81	17 *	5.20	0.50	3705	3.48	6.10	—	170	.24	.54	.44	239	.54	.44	9.46	7.04	
Psychoneuroses	52.69	51 *	62.20	27.50	45	.05	.04	—	14	.02	.02	.01	7	.02	.01	62.29	27.55	
Psychophysiological autonomic and visceral disorders	36.50	18 *	43.70	17.70	—	—	—	—	—	—	—	—	—	—	—	43.70	17.70	
Acute Brain Syndromes	0.14	—	—	—	124	.04	.36	—	4	.01	—	—	—	—	—	0.05	0.36	
Mental deficiency	15.00	26 **	13.20	21.30	—	—	—	—	—	—	—	—	—	—	—	13.20	21.30	
Total	113.14	112	124.30	66.80	3874	3.57	6.50	—	188	.27	.56	.45	246	.56	.45	128.70	73.95	

* Based on clinical examination of a stratified sample of 809 individuals in the survey by the Commission on Chronic Illness in Baltimore in 1952-1955, and adjusted to the Baltimore population.

** Based on clinical examination of a stratified sample of 992 infants born in Baltimore in 1953 and adjusted to the Baltimore population.

† All Baltimore residents in the Maryland state and private hospitals as of June 1, 1954, taken from the hospital records.

‡ Based on a 50% systematic sample of the Baltimore residents in the Veterans' Administration Facility serving the Baltimore area.

at 7.04 cases per 1000. On the face of it, therefore, the lower Negro rate clearly vitiates the labored explanations of Wilson and Lantz.

Even when the rates for psychoses are adjusted for age, as they should be, because, as Wilson and Lantz point out, "Negroes die younger," the total prevalence rate is still higher for the white Baltimore population. Finally, it should be noted that the psychoses are among the easiest to diagnose of the mental disorders. This being the case, it is most unlikely that noninstitutional Negroes went unrecognized by the team of evaluators in the community. On the contrary, clinicians have stated that because of the inability of white psychiatrists to comprehend the nuances in the Negro subculture and the behavior of individuals socialized in this subculture, there is the tendency to over-diagnose psychoses among Negroes (13).

From all of this it follows that the discrepancy in prevalence rates is probably small, if there is a disparity at all, and it is as likely to favor the nonwhites as the whites. The higher noninstitutional white rates are offset by the higher nonwhite state hospital rates. Two questions follow from this. How may the higher nonwhite institutional rates be explained and conversely, what accounts for the greater white noninstitutional rates? In effect, these questions suggest the answers.

The lower class population—Negro and white—living under adverse economic and social conditions and with less stable family ties is simply in no position to maintain, care for and tolerate a disturbed and disturbingly ill individual. Such individuals consequently are institutionalized. This applies as already noted to lower class persons in general. Since the Negro population, relative to the white, is overwhelmingly lower class, it follows that nonwhites will be proportionately institutionalized. By the same token, the ability and willingness and wherewithal to maintain a sick person in the community under medical supervision or to send him to a private institution is positively related to class. The white population is therefore likely to send relatively fewer cases to state hospitals. This would appear to be a simpler, more logical and

more realistic explanation. In the same vein, it would be easier to tolerate a disturbed person in a rural setting than in an urban and highly complex one. Would not then the higher Northern institutional rates for nonwhites be a function of the urban setting, including the greater likelihood of being diagnosed as psychotic?

2. *Psychoneuroses*. Racial differences in rates for the psychoneuroses are almost wholly dependent upon an examination of noninstitutional cases. Few psychoneurotics are sent to state hospitals. From Table 1 it is readily apparent that the psychoneuroses rate is over twice as high for whites as for nonwhites. The exact rates per 1000 are 62.29 and 27.55 respectively. This rate discrepancy occasions little surprise. The class explanation above would explain part of the disparity. Upper class persons are more likely to be diagnosed as psychoneurotics and lower class persons as psychotics or personality trait disturbances. Again, as noted earlier, white, middle class examiners are, for cultural reasons and familiarity with symptoms, more likely to be aware of psychoneurotic manifestations in whites. There is also the problem of the channeling and content of neurotic manifestations and subcultural variations thereof. Certain behaviors—anxiety, hostility and the like—may take different forms and thereby go under detected in groups removed from one's own. The different meanings which attach to the same gestures, words, and symbols on a subcultural basis may also play some role in this discrepancy.

3. *Psychophysiologic Autonomic and Visceral Disorders*. As in the instance of the psychoneuroses, psychophysiologic autonomic and visceral disorders are over twice as frequently encountered in whites as in nonwhites. From Table 1, the rates per 1000 population are 43.70 and 17.70. Institutional rates for these disorders are negligible.

In interpreting this finding, the same basic *post hoc* explanations as for the psychoneuroses are suggested. In addition, it is very probable, based on sociological evidence, that nonwhites as lower class persons are less likely to report symptoms which enter into this diagnosis. The lower class emphasis on toughness and its lesser aware-

ness of an emphasis on the significance of psychophysiologic disturbances undoubtedly accounts for some of the difference in rates. This should apply even more strongly to white and nonwhite females.

4. *Acute Brain Syndromes.* This category of disease is almost wholly confined to the consequences of alcoholism. Institutional rates are nine times greater for nonwhites as is shown in Table 1. Whether this reflects true prevalence rates is again questionable. The extent to which these rates are influenced by the ability of the white population to receive private treatment in general hospitals and the lesser ability of nonwhites to do so is unknown. The opposite results would be obtained, it should be stressed, if membership in Alcoholics Anonymous was sampled. To restate and reemphasize the problem, all of these rate disparities may represent nothing more profound than differential access to private versus public treatment.

5. *Mental Deficiency.* Referring again to Table 1, it will be seen that nonwhites have a 60% higher rate than whites for mental deficiency in Baltimore. The figures are 21.30 per 1000 nonwhites and 13.20 per 1000 for whites. This higher nonwhite expectancy has been reported in almost every comprehensive study on the subject. The lower rates for Negroes found in Virginia institutions reflect either a lack of facilities for nonwhite mental defectives or the higher percentage of rural nonwhites since mental defectives like mental patients are much more readily cared for in rural areas, or some combination of both of these factors.

In previous investigations we have attempted to ascertain the probable causes for higher mental deficiency rates among Negroes. We have found that mental deficiency is associated with prematurity and complications of pregnancy (14). The latter, in turn, are largely determined by socioeconomic variables so that brain damage and neuropsychiatric disorders stemming from a continuum of reproductive casualty should more likely be encountered in the lower socioeconomic groups (15).

SUMMARY

This paper reported the results of a series of concurrent investigations in Baltimore dealing with the prevalence rates for various psychiatric disorders in the white and nonwhite population. The findings based on a community survey, and state, private and V.A. hospital rates indicate that the white population has the higher rates for the psychoses, psychoneuroses, and the psychophysiologic-autonomic-visceral disorders. Nonwhite rates are higher for the acute brain syndromes and for mental deficiency.

An attempt is made to explain these variations and to refute the conclusions of a previous study by Wilson and Lantz in Virginia.

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THE SCIENTIFIC STUDY OF MASS MEDIA EFFECTS¹

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Max Born, one of the greatest and most conscientious atomic physicists, who received the Nobel prize in 1954, recently made an important pronouncement. He said, there is now "a dark shadow over everything," and he specified two facts: the methods of mass destruction and the corruptive influence of mass media, especially television.

Atomic fallout is being widely studied. In the field of psychological fallout from the mass media, however, clichés and misinformation abound. It is a characteristic of psychogenic factors that they may be activated, modified or inhibited by groups of other factors. That is one reason why the study of the effects of mass media (to which a majority of the population is directly or indirectly exposed) is so important. Television is a qualitatively new factor, unknown to Kraepelin, Freud or Bleuler, just as nuclear energy was unknown to the classical physicists.

The problem of harmful influences on the young and the methods of guarding against them changes in different periods. At the present time the most important event in this field is the appearance of a number of books which tend to minimize or deny the effects and confuse the issues. This is done in the name of science and the conclusions have been accepted by both laymen and behavioral scientists as "solid research." Therefore it is necessary to determine with regard to mass media effects what scientific methods are applicable and can give valid results.

The book most widely quoted on both sides of the Atlantic is *Television and the Child* by H. T. Himmelweit, *et al.*(1). It comes to the conclusion that television does not affect children significantly one way or another. Careful study of the evidence,

however, shows that this elaborate report shows nothing of the kind. It is just another of the generalizations to the effect that the child's responses are determined entirely by the "basic" personality of the child and not by the stimulation of the screen.

The children *were not examined*. They just filled out formal questionnaires—which is not the way to get true and intimate facts from a child. The book relies on statistics based on individual answers to questions, without considering the whole child. Individual facts are arbitrarily selected, separated and considered completely outside the concrete situation of the child and his family. As far as negative effects are concerned, attention is centered on what is "frightening" or "disturbing" to the child. From a mental health point of view, these are neither the only nor even the most important bad effects.

The report is particularly misleading when it takes up the effect on children of the violence in Western programs. It says that this violence is abstract and stylized and therefore innocuous and "readily acceptable." This pronouncement indicates the difference between the adult's offhand acceptance of what he *thinks* the child gets from television and the actual reaction of the child. It is a typical adult response, and is not how *children* see it. For example, the report states that if the victim who has been shot clutches at his stomach, that merely means to the child that he has been shot from the front! Many children have told me what it means to *them*: that the man is shot in the stomach because that is one of the places where it hurts most.

This book says of Westerns that "guns are generally ineffective." As proof: in one Western many shots were fired "yet no one was killed and only one man was seriously injured, a second man slightly." Children—and I agree with them—do not consider this "ineffective." The report also states that the villains in Westerns kill fewer people than do the good guys. This,

¹ Presented in part at the Conference on the First Amendment sponsored by the magazine *The Catholic World* in the program "The Effects Controversy," Oct. 1961.

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they say, "may worry humane persons; for children it has less significance . . ." I have found that in the long run this affects children profoundly.

It seems that one of the main preoccupations of this book is to discount the idea that there are any TV-inspired or TV-directed antisocial responses by children as a result of what they may have seen on the screen. Because children know that the ending will be happy "the violence does not matter!"

When this report appeared it was already out-of-date. The screen had not yet become, as one British critic put it, "littered with dead cowboys." Moreover it does not apply, then or now, to American children who are exposed to much more and worse screen mayhem.

The many tables that stud the book look persuasive. The book's message is very truly summarized in a popular medical column by Dr. Theodore van Dellem: "Dr. Himmelweit blames the personality and immaturity of the child for many of the bad effects attributed to this medium." Is it scientific to use the immaturity of the child to explain away the irresponsibility of the adults who produce the unhealthy programs for them? Bishop James A. Pike, who presented Dr. Himmelweit on his television program in California, summed up her main conclusion: "We have to tailor television programs to the particular child." That misses the very essence of television, which makes a visual impact on a *mass audience* of millions and cannot possibly be tailored to the individual child.

A book very similar in method, conclusion and influence is *Television in the Lives of your Children* by Wilbur Schramm, et al. (2). Here we find the old generalizations for which no research would have been necessary: What a child "takes" from television depends on the "needs" of his personality; television is so varied that it meets "all sorts of needs"; only children already "maladjusted" (that so conveniently vague term) are affected; "violence won't hurt your child anyway if the child is psychologically healthy" (thus disregarding entirely the long-range sleeper effects revealed by my clinical studies, such as instilling callousness, loss of sympathy, be-

coming accustomed to brutality and falsely linking sex with violence). We are asked to eradicate from our thinking the "stereotype of the Big Media and the Little Me." This is far from being a wrong stereotype; the contrast between the immensely powerful mass media and the individual family and child is one of the most essential facts of our present social existence. Psychological conclusions become invalid if we disregard it.

This is another book of statistics based on questionnaires, some filled out "in the classroom" by many children, some filled out for younger children by their parents. They provide unlife-like data which do not give the whole picture and which no amount of statistics can redeem. Although the author states that he "made use of all the other research" he could find, he departs from scientific custom (as does Himmelweit) by not mentioning contrary findings either in the text or in the bibliography. His book also obscures the important fact of grave concern to physicians, that very many young children do not get enough sleep because of watching late television shows. How do these authors dispose of this well-established clinical fact? Schramm says that children who watch television "on the average" go to bed only 13 minutes later than other children; Himmelweit says 10 to 20 minutes later. Such misuse of statistical average figures gives a totally wrong impression. It is like claiming that there are no multimillionaires or paupers by using the computation of the average American income. We are concerned here with paupers, and as far as sleep is concerned there are many of them.

At the end of the book there is "A Psychiatrist's Comment on the Effects of Television" by Lawrence Z. Freedman. It is all about the child and not about television—all theory instead of clinical fact. We are told that "the daydreams of most (*sic!*) children would make the fiercest television show seem tame." I have examined many children of many sorts for many years, and supervised their examination in clinics. I have never found any child who had daydreams of, for instance, cutting out a beautiful girl's tongue, or having a man

hanged by his feet over a fire with his head in the flames, unless it was suggested to him from the outside. Nor can I confirm the statement that "stable children from reasonably harmonious homes" are "unaffected."

Despite its dubious scientific value, this book has had tremendous influence. It is on the shelves of the most well-meaning people, in child guidance, law and theology. It has received exuberant reviews, from *The New York Times* ("excellent," "well-documented," "a standard work," "exhaustive research") to the *Daily Worker* ("most careful," "exhaustive study," "sound advice," "children get out of TV what they bring to it"). A statement in the *London Times* links the two books together and says that "these two reports have laid the groundwork for future policy, both among the networks and in the home."

So the home, which in pre-electronic times afforded the child protection, is invaded on two fronts: by bad television programs which influence the children and by slanted books about them which influence the parents.

The declared aim of *The Effects of Mass Communications* by Joseph T. Klapper(3) is to "integrate" published research on the subject. The blurb speaks of "scholarly analysis," "independent analysis of research" and calls the book a "basic reference work." What does it tell the teachers and others connected with child guidance and education to whom it is distributed? The author comes to the conclusion that "nothing is known about the relationship, if any (*sic!*), between the incidence of violence in media programs and the likelihood that it will produce effects." He amplifies: "absolutely nothing (*sic!*) is known regarding the relative potential of varying amounts of stimuli. The statistics of violence shine conspicuously in a standardless void."

Actually we are confronted in the mass media with a display to children of brutality, sadism and violence such as the world has never before seen. At the same time there is such a rise of violence among our youth that no peace corps abroad can make up for the violence corps at home. If, as this book tells us, we know "absolutely nothing" about it, we would be

scientifically in a bad way indeed.

Three other books can be cited: the chapter on mass media in the book *Juvenile Delinquency* edited by Roucek(5) is a survey which also recognizes only the quantitative and completely equates scientific with statistical. The book *Adolescent Aggression* by Bandura and Walters(6) leaves out any consideration of mass media entirely. A *Study of Murder* by Stuart Palmer(7), subtitled "A Scientific Study," is a statistical study with a control group and with numerous graphs and tables. Although one of the subjects, a youth who killed a 4-year-old girl, specifically brings up screen violence, mass media are not considered. A review in *The Nation* says that this book "must be welcomed the world over." One of the book's main conclusions is that "the typical murderer was white, Catholic, and neither the oldest nor the youngest child in the family." This statement is no more preposterous than the conclusions in the Himmelweit book and the others like it. The method is the same.

The fact that all the research in these books was financed by Foundations or research agencies indicates a currently approved trend.

The error of these and similar publications is their method. That is why they arrive at negative conclusions about mass media effects. The term *statistical* does not embrace all science. The statistical-questionnaire-control-group method is unsuitable for these intricate problems. Consequently it is bound to lead to wrong results. While it is alleged to be objective, actually it is very subjective. The statistical results offered us are based on arbitrary assumptions. Questionnaires are a Procrustes bed and they do not elucidate the whole picture. A little boy who was asked if he believed in God answered truthfully: "Sometimes." You would have to know a lot more about this child before being justified in drawing any conclusions. But in the hands of current users of the statistical-questionnaire method this sort of answer would lead to establishing groups of believers, non-believers and undecided, from which percentages would be figured out. Such primitive categorical classifications abound in the literature. To give a child a set of questions is practically

the opposite of a careful clinical examination.

Control cases that would be comparable units, as in physics or biology, do not exist in such a complex field as mass media. No statistical refinements can overcome the errors contained in the data. How can you possibly find in New York City 200 children who have seen television and 200 sociologically and psychologically strictly comparable children who have not? Some children do not have a TV set because of the low economic status of their parents; others have none because of affluent intellectual parents who consider themselves too sophisticated to permit sets. Yet in statistics both would appear in the same control group. It is a fallacy to think that findings are not scientific unless they can be expressed in a graph and must have very large numbers. In none of Freud's works are there any statistics. If you demand mathematical precision you could not even say it is bad to covet your neighbor's wife: nobody has ever done a statistical study on that with control cases.

We must recognize "the frailties of the questionnaire method," as Dr. Clarence B. Farrar put it. The *clinical method* is what is needed for any truly scientific study of mass media effects. There is no substitute for a thorough clinical psychiatric examination of actual cases.

The clinical method includes a study of the whole child, a diagnostic evaluation of his personality and emotional life, his thinking, his background, his real satisfactions and dissatisfactions, the application of psychodiagnostic tests and—most important—a follow-up of his further development and response to guidance and therapy. You must gain the confidence of the child. The question of mass media effects is introduced in such a study only indirectly, unobtrusively, as part of the whole group of factors that motivate and influence a child. What you need are spontaneous responses. In very young children playroom observation is of the greatest help. You do not have to ask the children questions; you can watch whether, when and how they fight with other children. I have seen real wars in the nursery, with Superman, Popeye and the Three Stooges as the emulated heroes.

The different media are very different in their aesthetics and their impact. The relations of the printed word to the human mind are not the same as those of the visual image or the moving image accompanied by speech. The content of crime comic books, with which I started my mass media research³ originally, was easier to analyze and correlate because they could be kept indefinitely(4). To monitor many television programs for children's viewing hours, and keep records of them, is more difficult.

What is the function of television? It serves five purposes: entertainment, information, education, advertising and propaganda. In all of them it has been eminently successful. My clinical studies of over 200 unselected cases led to the conclusion that our younger generation is getting more and more teledirected(4, 8-10). My material includes a sampling of all kinds of cases, from the mildest attitude changes to the 12-year-old boy who stabbed his sister in the breast with scissors. Those who do not see such cases cannot draw valid conclusions. The influence of mass media varies greatly in degree and kind with different children and adolescents and their concrete life situations. In general, there is a tendency to stereotype emotions at the expense of the emotional spontaneity of the individual. The relentless commercialism and the surfeit of brutality, violence and sadism has made a profound impression on susceptible young people. The result is a distortion of natural attitudes in the direction of cynicism, greed, hostility, callousness and insensitivity. This may express itself in the individual in overt acts, in fantasy, in dreams, in subtle personality changes, in a lowering of inhibitions or an alteration in the threshold of resistance to all kinds of injurious influences. Greed and sadism are perpetuated where they exist and aroused where they do not. Doing wrong means getting caught. Harmful mass media influences are a contributing factor in many young people's troubles.

To make such clinical observations one has to start not without premises, but with premises that are correct. A realistic conception of what a child is is necessary.

³ Within four years after the publication of *Seduction of the Innocent* 24 of 29 crime comic publishers went out of business.

Without thorough examination we cannot tell what child is susceptible and which is not. Children—all children—are impressionable. Ilg and Ames of the Gesell Institute at Yale state in their column "Child Behavior" that many perfectly normal (*sic!*) children, particularly around 7-8 years of age, experience spontaneous (*sic!*) love for blood, murder and torture. (In other words, they are born that way.) To start from such a false premise *must* lead to wrong conclusions—and, what is worse, to *wrong observations*.

Another misconception is the over-simplified generalization that we can start with a sharp *a priori* distinction between normal, stable children and "emotionally disturbed" and unstable ones. The term *emotionally disturbed* needs at least some clinical psychiatric underpinning. Otherwise it is just name-calling. To lump all normal children together means to assume a monotype standard and disregard the fact that different types of healthy children have different degrees of susceptibility. The normal child is alleged to be invulnerable, the abnormal child vulnerable. This misconception is so widespread that it seems almost impossible to eradicate it. It is not only the abnormal and maladjusted child, however, who can learn—and be seduced. Every sex offender knows that. Normal children are not inaccessible. They learn; they are sympathetic, interested; they can be taught bad as well as good.

It is frequently contended that whatever the effects of the bad features of mass media, they are not a "basic" cause, not an immediate, direct, primary factor. This is too mechanistic a conception of causality. Such a term as *basic* is purely subjective and pretentious. We do not know the basic cause of heart attacks, but we know a great deal about contributing factors. Who knows the "basic" cause that leads men to kill, steal, pray or vote? Of course "the makers of mass media have not created the appetite for violence," as is so often stated. Nor have peddlers of pornography to children created the sex instinct. But it makes no fundamental difference in our stage of knowledge if a cause is not "immediate" but remote, not "primary" but secondary, not "direct" but indirect. What is important is that

without this contributing factor the harmful effect would not have taken place (pathogenic effect) or at least not in that form (pathoplastic effect). The much-used term "triggering" to describe mass media effects is just evasion. A concrete clinical analysis of all causal connections is necessary. The schematic distinction between causal and contributory does not hold in the world of emotion. In mental life, all contributory factors have to be regarded as causal.

The objection is sometimes raised that mass media violence cannot be isolated and is merely a symptom of our general social life and not a cause. That is again too simplistic and mechanical an idea of causality. Something may very well be a symptom and at the same time a cause. Socially, mass media violence is a symptom; individually, it may be an operative cause.

Clinical observation with emphasis on follow-up indicates that the long-range effects are the most important ones. If a child or an adolescent spends some 5 hours a day before the television screen—and many do—and sees there in half an hour more violence than an adult sees in a lifetime, the effects may not show up on a questionnaire. I have found that does not mean they are not there. As one of the most realistic students of wayward youth, Father Mario Borelli, expressed it: "A child's mind is like a bank. Whatever you put in you get back ten years later with interest."

The test of science is prediction. On the basis of my studies I predicted *fifteen years ago* that more and more brutal violence would be committed by younger and younger age groups. This was met then with disbelief. Now it is common knowledge. We are raising a generation of violence-worshippers. "Violence?" one of the young Brooklyn thrill-killers told me, "It is everywhere." Mass media have helped to create and foster the belief that brutality is an expedient regulator in all social relationships. There is a real danger that today's fiction will become tomorrow's documentary. The clinician will have to take the influence of mass media into account for better understanding of the individual and for the public health aspects of psychiatry.

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THE PSYCHIATRIST'S ROLE IN THERAPEUTIC ABORTION : THE UNWITTING ACCOMPLICE ¹

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Since the days of World War II, the psychiatrist's influence in American life has persistently broadened. We are called upon to give opinions on all sorts of matters ranging from the purely medical through the psychological to the social, economic, and even political. With better salesmanship, our image has changed and has brought a gradual, but definite acceptance by the general public and by our colleagues in other parts of the medical profession. With this increasing acceptance has come increased responsibility. We are asked to assist in making decisions which not only are of prime importance to our patients but also may have a widespread effect on the community-at-large.

The topic of this paper concerns one of the areas in which we are frequently consulted, that of therapeutic abortion. These operations are being performed more often for psychiatric reasons than ever before. A recent study of California hospitals(1) revealed that over 50% of therapeutic interruptions of pregnancy were accomplished for reasons other than the physical health of the mother. In a recent 10-year period, the percentage of therapeutic abortions performed for psychiatric reasons in New York State rose from 8.2% to 40%(1). Is it possible that instead of being flooded with new insight into the unconscious, doctors are recognizing an easy out when under pressure to stop a pregnancy? Is it possible that the psychiatrist has become the unwitting accomplice?

In all U. S. jurisdictions, it is a crime to induce an abortion unless the case falls within certain exceptions(2). In recent years, it appears that the abortion laws have been interpreted more liberally(3). At the present time, in 31 states, it is a crime to perform a therapeutic abortion unless this operation is necessary to preserve the life

of the mother. For instance, in the State of Michigan,

Any person who shall wilfully administer to any pregnant woman any medicine, drug, substance, or thing whatever, or shall employ any instrument or other means whatever, with intent thereby to procure the miscarriage of any such woman, unless the same shall have been necessary to preserve the life of such woman, shall be guilty of a felony, and in case the death of such pregnant woman be thereby produced, the offense shall be deemed manslaughter. In any prosecution under this section it shall not be necessary for the prosecution to prove that no such necessity existed.

This is spelled out in no uncertain terms in most of the states, although three states make abortion legal when it is done to protect the woman's health as well as to preserve her life.

Since pregnancy is seldom a serious threat to the life of the mother in the face of modern medical management(4), it must follow that many of the recommendations for therapeutic abortion are on other than strictly medical grounds. It must follow, also, that these cases fall into the cloudy area of psychiatric indications for interruption of pregnancy and are, at best, of somewhat dubious legality. It seems possible, too, that in many cases the operations are performed as a result of the elasticity of psychoanalytic considerations or the unfortunate misinterpretation of the individual woman's problems. The question which faces the psychiatrist who bothers to remember the law is "Will the patient commit suicide if we do not go ahead with the abortion?" In most states, the law is specific enough so that we are not allowed to consider whether the pregnancy will bring on mental disease or aggravate pre-existing mental disease. We are also not allowed to consider or make overt statements as to the possible influence of a sick mother upon the child which would be a result of the pregnancy. These are matters

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

about which psychiatrists have very distinct opinions. But these opinions are not provided for in the statutes.

It becomes apparent then that we must state in any recommendation for abortion that the patient will kill herself and we must state this in writing. How sure are we of this prediction? Many psychiatrists have admitted that they do not know of even a single woman who has successfully committed suicide under these conditions. Certainly it is the consensus that these pregnant women very rarely carry out the threat. Some psychiatrists recommend that women who threaten suicide and are obviously going through a severe emotional upset should be hospitalized until the pregnancy is completed and if it makes good sense after delivery, the baby adopted out. It has also been pointed out that psychotherapy has been helpful to patients whose initial visit to the psychiatrist concerns a request for therapeutic abortion(5).

The magnitude of the problem is rapidly increasing. There are thousands of babies who are prevented from entering our society each year by virtue of a so-called therapeutic abortion. How many hundreds of thousands of illegal abortions that are done can only be roughly estimated. These also must be in cases where the women concerned knew or were told that they had no good medical case for interruption of the pregnancy. It has been stated, too, by authorities that a large number of these interruptions are accomplished on married women(2). There are only a small number of pregnancies which really are a result of rape or incest or other unfortunate situations toward which our sympathies cannot help but be extended.

One of the difficulties which a psychiatrist encounters in assessing a case referred to him for recommendations concerning therapeutic abortion is the time element. Most patients come or are sent to the psychiatrist after they have missed at least two periods. The psychiatrist is under great pressure to come up with some kind of an answer within, at best, two or three visits. Arrangements have to be made in a hurry so that the obstetrician, who will perform the procedure, will feel that he is within the acceptable time limit or as close to the

first trimester as is possible. Any examination performed under pressure will run the risk of being incomplete and also of not being objective. The psychiatrist is not only being pressed by the patient, but often every bit as much by the referring physician who has already decided in his own mind that the patient should have a therapeutic abortion but can really find no good medical reason for it. He therefore refers the patient to the psychiatrist in the hope that the psychiatrist will pull the case out of the fire. It is probably true that a great many suicidal intents are grossly exaggerated in order to make the indication not only a legal one, but a justifiable one to the conscience of all concerned. It is also interesting to explore the attitudes of those around the patient as to whether or not someone else is the leading agent for the abortion. Many times, it is the husband who does not want the child or even the mother or mother-in-law who feels, for some reason, that the patient should not have the child. Careful study often reveals the true facts of the situation, namely, that the pregnant woman wants the baby but is fearful of someone else's disapproval. In very rare cases, the psychiatrist, despite his reluctance, might have to admit that it is possible a therapeutic interruption of pregnancy is indicated and that it comes within the meaning of the law. The following case illustrates a possible indication.

The patient was a woman in her early 30's and, at the time of the psychiatric examination, had missed her second period. She had had 5 previous pregnancies; one of the children was drowned at the age of 3 about 4 years before the pregnancy in question. The first 4 of her pregnancies were described as very happy ones and she was completely contented. Her fifth pregnancy was the only one in which she was significantly ill and she said, "I was nauseous from morning to night. After I got a shot, I then couldn't make myself sick, I guess I was making myself sick." The patient was one of those women who insisted that none of the rules of contraception seemed to work for her and, very significantly, she felt that this sixth pregnancy was accomplished without a complete sexual act. The patient developed great resentment for her husband because she felt that this was a sneak attack. This resentment grew from the time of the act of intercourse,

itself, and reached serious proportions by the time she was referred to a psychiatrist.

The patient, on examination, appeared to be seriously depressed and suicidal. She had withdrawn completely from all social life. She had been sleeping most of every day in addition to at night. Her appetite was severely impaired. She was bothered with obsessive ruminations about doing harm to the children she already had. She was bothered by the obsessive impulse to destroy herself while driving the car. Her libidinal interest disappeared completely. It was felt that her suicidal intent was real and that she would not only carry this out but actually might act upon her feelings toward the other children. It appeared, too, that the fifth pregnancy was one in which she strained her defenses to the limit and that this, the sixth pregnancy, would break down those defenses completely.

A therapeutic interruption was recommended and the patient, to the date of this paper, has been described as being very happy by her physician and her relatives. It should be noted, however, that this patient, as most patients who had had therapeutic interruption(6), did not return for follow-up psychotherapy. What remains for her is yet to be seen and it is the author's opinion that the last of this has not been heard and that perhaps during the menopause there will be a flare-up of the old guilt feelings. The author has never seen a patient who has not had guilt feelings about a previous therapeutic abortion or illegal abortion.

It is probable that most psychiatrists, upon examining the above patient, would have agreed on the indications for therapeutic abortion and that the patient fell within the meaning of the law as it has been practiced and interpreted in most jurisdictions. A more interesting case, however, which brings out the need to look for contraindications, and for not accepting the initial statements of the patient is that of the following:

The patient was a 41-year-old woman, who had one child, a son, about 20 years of age. The patient was seen originally in hospital consultation where she already had been given the impression that she had been admitted for therapeutic interruption of pregnancy. The patient went through the usual tearfulness and agitation in describing her depressed feelings and her desire to have this pregnancy inter-

rupted. It was revealed in discussion with her that about 6 months prior to her becoming pregnant, her only son had announced to her that he was a homosexual. This disturbed her greatly, of course, and after 20 years of not becoming pregnant, she suddenly conceived and then, as soon as she knew she was pregnant, began to feel that something would happen to this pregnancy. This opinion was fed by one of her physicians who told her that the pregnancy might not go to term anyway. The patient's sense of inadequacy and guilt concerning what she felt to be a failure in her first child was compounded by the fear of a second error. She therefore stated that she was extremely depressed and did not want to live if she had to go through with this pregnancy. It was quite readily apparent that what this patient was saying was that she feared producing another imperfect child and therefore failing in her role as a woman. It should be remembered that she was nearing the menopause and was quite aware of this. Further investigation revealed that the marriage was not a totally satisfactory one and that here, too, she felt a sense of inadequacy and failure. The psychiatrist refused to go along with the recommendation for therapeutic abortion. The husband phoned the psychiatrist at his office and gave him his opinion in no uncertain terms and told the doctor that he could not understand his reluctance to okay this procedure. He implied that it was not convenient at this time to have a baby. The psychiatrist posed the question, "When is it convenient to have a baby?" At this, the angry husband slammed the phone and ended the conversation. Follow-up of this case revealed that when the woman finally came to term and delivered a normal child, she was extremely happy and pleased and has been ever since. An ironic twist to the whole situation is illustrated by a phone call from the husband to the obstetrician (not the psychiatrist) thanking him for not letting anyone do the abortion.

It seems that a case such as the second one is an excellent example of not taking the patient's statements at face value and of using our knowledge of psychodynamics and of the needs of human beings in coming to decisions of this kind. Despite protests to the contrary, we know that woman's main role here on earth is to conceive, deliver, and raise children. Despite all other sublimated types of activities, this is still their primary role. When this function is interfered with, we see all sorts of emo-

tional disorders and certainly the climax of these disorders is reached at the menopause when women recognize that they no longer can reproduce their kind and interpret the menopause as the end of life rather than the change of life. This is not just textbook theory, as all who practice psychiatry very well know.

It is interesting, too, as we study women who have difficulties during their reproductive years that many, many women who are habitual spontaneous aborters really do not want the children and therefore do cancel themselves out of the reproductive race, so to speak. This is only one example of the influence of the unconscious on the functioning of the female reproductive organs. Another is that of pseudocyesis or false pregnancy in which unconscious factors so influence physiology that even the pregnancy tests may be positive along with amenorrhea, breast tenderness, abdominal enlargement, *etc.* Yet another example is the increase or decrease of sexual desire gauged to coincide with fertile or infertile periods. Some women feel the need for sexual satisfaction only during the menstrual period itself.

In the face of all of this evidence for unconscious influences in women's attitudes toward pregnancy, how can we accept a conscious statement from a woman to the effect that she does not want a certain pregnancy? If we have learned anything in psychiatry, we have learned to respect the unconscious far more than the conscious and we have learned not to take statements at face value.

In the light of the second case, it seems prudent to call attention to the possibility that many women may have had pregnancies interrupted in the past for what appeared to be sound medical reasons, without a psychiatric examination, which might even have offered some possible contraindications to interruption of pregnancy. Certainly, if the life of the woman is in jeopardy due to a medical condition, the author cannot conceive of a psychiatric contraindication, but in so many of our present-day therapeutic abortions, it seems that with a little search we can find many instances of contraindication and can be of greater assistance to our colleagues in this area than

we can in rubber-stamping the first appeals of an angry, frightened patient or her family.

Psychiatrists must not allow their knowledge of psychodynamics to be misused by anyone, including themselves. We have no business allowing our personal feelings about the moral or social or economic position of our patients to influence our decisions concerning therapeutic abortion. There is a statute in most states which spells out what we have to do. If psychiatrists are interested in changing the law, that is up to them, but the author does not believe this is their function. The cases in which unfortunate circumstance has contributed to pregnancy are really few and far between and the vast majority of the requests for therapeutic interruption which are made of a psychiatrist are those of married women in families who can well afford to have children, but who, on first hearing the news of pregnancy, become upset and try to influence medical opinion to interrupt the pregnancy.

As psychiatrists, we must re-examine our position on therapeutic abortion. We must not allow ourselves to be pressured and we must never forget that there are certain fundamental, biological facts which influence the psyche of our patients. We must remember that, in most of the requests which are made to us concerning an interruption of pregnancy, the pregnancy can be carried to term and the patient can be handled either in office treatment or in a hospital until the baby is delivered. The ability of mothers to accept infants after they are born is underrated and underestimated. We also are much too quick to accept trite statements and poorly controlled studies about the influence of so-called sick mothers upon their children.

In summary, the author wishes to call the attention of all psychiatrists to the increasing demands made upon them to make decisions concerning therapeutic abortion. The author asks his colleagues to reconsider their position and, in examining these patients, concern themselves mostly with a search for contraindications rather than for indications to therapeutic interruption of pregnancy. The author further wants to remind the members of the psychiatric pro-

fession that they have no more right to break the law than anyone else in our society and that if they want to change the law, that is their business, but that with only a few exceptions, actually there is good biological, psychological, and moral justification for the law as it stands.

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GROSS STRESS REACTION IN COMBAT—A 15-YEAR FOLLOW-UP¹

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CHRISTINE MILLER, Ph.D.,² AND READ D. TUDDENHAM, Ph.D.³

During World War II and shortly afterwards, many studies were made of combat fatigue or gross stress reaction. In most of these reports, the syndrome was regarded as a transient state. A few investigations have found the syndrome persisting as long as 5 years. It has not been fully recognized that many veterans retain their original symptoms of startle reaction, recurrent nightmares, irritability, and headaches largely unchanged after a decade and a half.

Rather than attempt to review the massive literature on "wartime psychiatry" the reader is referred to a book by that title by Lewis and Engle(1) (review of 1166 articles, 1431 authors). Some hold "combat fatigue" to be a syndrome differentiable from psychoneurosis while others do not. The Gray Manual establishes the following criteria: 1. Unusual stress; 2. Previous normal personality; 3. Reversibility; 4. Possible progress to one of the neurotic reactions; 5. If the reaction persists, this term is to be regarded as a temporary diagnosis to be used only until a more definitive diagnosis is established. However, there is no provision or official name for the continuance of these symptoms.

A study by Dobbs and Wilson(2) illustrates dramatically the persistence of reactions to combat sounds in some veterans. A tape recording of combat sounds was played to three groups of men: men who had never been in combat, men who had been in combat but who showed no signs of psychiatric disability, and combat veterans who had symptoms typical of combat syndrome. Measures of physiological response, such as EEG, pulse and respiration rate, were taken during the playing of the recording. The non-veteran group made mild, orienting responses to the combat sounds.

The psychiatrically well combat veterans had mild to marked physiological and behavioral responses, while the combat syndrome veterans showed such marked behavioral disturbances that it was impossible to record the physiological responses. While the behavior of the combat veterans was described as near-psychotic at this time, the authors report that none of the subjects in their series was so diagnosed.

Inasmuch as stress is defined as one of the key components of the combat reaction it seems appropriate to mention Selye's theory that all disease stems from stress. Not all physicians, psychologists or physiologists agree with this theory but there is general recognition of some link between stress and disease. Selye's now famous G.A.S. concept emphasizes the chemical aspects of the problem and provides that the reaction of the human body to an outside agent is often more important than the agent itself.⁴

The determinants of these reactions may be subtle. William Caudill(3) among others emphasizes the importance of such attitudes toward injury and disease—"attitudes that are deeply imbedded in the personality so that what is considered a slight injury in one culture may be a severe trauma for an individual in another culture." Mead(4) states that in New Guinea attitudes toward cuts and wounds are casual but in Bali where there is an extreme fear of mutilation the practice is to keep cuts and wounds open for several days to prevent early closing and infection. Reaction to the combat situation may vary from group to group. For example many military men have noted the unusual stability of Turkish, Gurka and

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⁴ As Lazarus, *et al.* (U.C.), have shown, the physiological effects of stress may be reduced by changing the meaning of the stressful stimulus to the subject. The physiological effects of a traumatic motion picture on subincision were altered according to whether the sound track accompanying the film was intended to deny, to intellectualize or to maximize the impact of the film.

Scottish Highland troops. We cite this as evidence that socio-cultural factors play an important part in the development of resistance to combat fatigue.

It is interesting to observe that although the combat fatigue syndrome is frequently persistent for many years, a number of veterans delay seeking treatment for their specific symptoms. The Veterans Administration Mental Hygiene Clinic in Los Angeles⁽⁵⁾ studied 200 combat veterans after 5 years and noted "even at this late date (1951) we still encounter fresh cases that have never sought treatment until the present time." Now a decade and a half after the war we can make the same statement. The VA made an extensive "Follow-up Study of War Neuroses" (1000 cases published in 1955). Note that when the study was conducted it was not possible to differentiate the chronic cases.

Chronic "combat fatigue" should not be interpreted as a special case of chronic invalidism. However one common element seen in both instances is the use of symptoms to dominate or punish others, to evade responsibility, to gain attention, to obtain compensation or achieve some other goal. Chronic invalidism has been studied intensively for example at the Langley Porter Clinic from 1944-1947^(6, 7). Their clinical and psychological findings are similar but not the same as those of our experimental group. (We were fortunate in getting an opinion from one of the co-authors of the L.P. study who also went over our data.)

Our clinical impression from interviews and group experience with these men is that in many cases the combat syndrome persists as a chronic state of over-vigilance, one which seriously affects their lives. Needing to avoid noisy and overstimulating situations, worn out by nightmares and sleep difficulties, these veterans often seemed to be more disabled than is generally recognized.

To investigate both the persistence and characteristics of the syndrome, questionnaires concerning health, adjustment, and service experience were sent to 65 veterans who experienced symptoms after an average time of 15 years. A control of 70 non-combat veterans who are or had been patients at the Mental Hygiene Clinic was also studied.

These subjects were selected by a process of restrictive randomization. Fifty-seven combat patients and 48 non-combat patients returned the questionnaires. Minnesota Multiphasic Personality Inventory protocols were also available for most of both groups. It is of interest that while no attempt was made to screen the combat syndrome veterans for schizophrenia, not one carried this diagnosis. Anxiety reaction was their most frequent diagnosis. In the non-combat control group, in sharp contrast, nearly one-half were officially diagnosed schizophrenic. In addition a small group (15) of combat veterans without service connection and who had never requested psychiatric treatment were also given the questionnaire.

The questionnaire and MMPI results⁵ confirm our expectation that in the majority of veterans studied this is a severe and persistent illness.⁶ The combat veterans generally showed more pathology on both the questionnaires and MMPI than did the controls.⁷

The questionnaire contained 64 items of which 24 were symptoms clinically judged to occur frequently in the combat syndrome. The subjects were asked to check whether they had experienced these symptoms in combat (or in the service, in the case of the non-combat controls), on discharge, or at present. A space to check for each time was provided so that a subject could indicate the presence or absence of a symptom at one or more of these times. As expected symptoms highly specific to the combat syndrome were checked far more often by the combat group, *e.g.*, combat dreams and startle re-

⁵ We wish to credit Harrison Gough, Ph.D., University of California, for his assistance in the analysis and formulation of part of our data.

⁶ The majority of veterans in this series receive some compensation from the government—some receive none—many receive compensation for gunshot wound, not psychoneurosis. Concentration camp syndrome, as presented by Bettelheim, Eitinger⁽⁸⁾, and others is similar to gross stress reaction in combat. A research team in Norway found that 96% of persons investigated fairly recently continued to experience symptoms resulting from their stay in the concentration camps. Note that most of these civilians have received no monetary compensation.

⁷ Fourteen combat syndrome wives showed the reverse compared to 54 wives of non-combat veterans.

actions. However symptoms characteristic of the combat syndrome, but less specific to it, such as dizziness, blackouts, sweaty hands, and jumpiness were also much more often checked by the combat group.

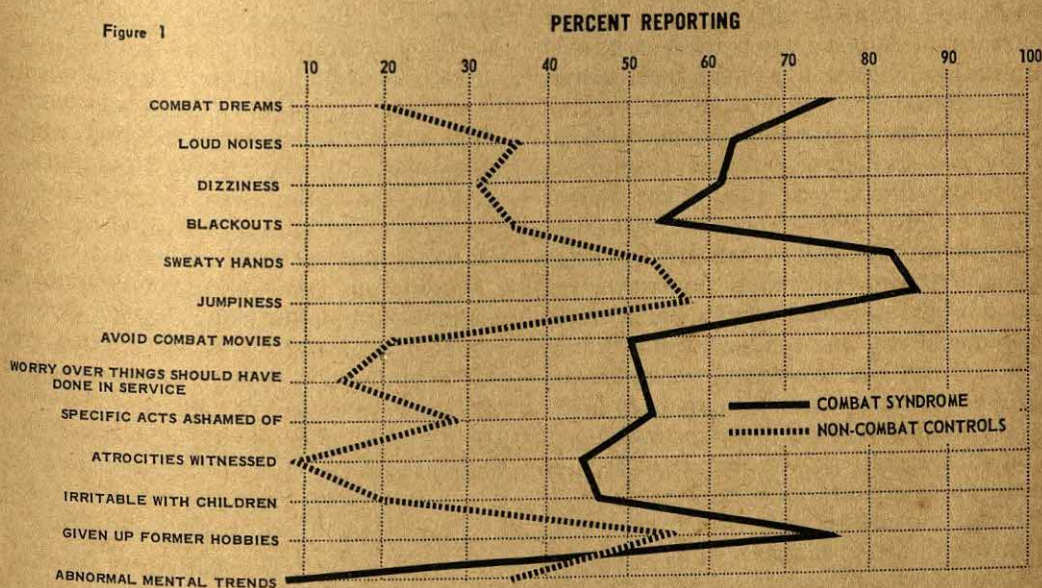
The picture of the syndrome growing out of the questionnaire is one of tension, irritability, depression, diffuse anxiety symptoms, headaches (70%), insomnia and nightmares. The combat veteran typically avoids all situations where he may be subject to sudden loud noises and reminders of combat, such as combat movies and TV. He has often given up hunting because he does not want to use a gun. In comparison with the non-combat controls, he is more laden with guilt and concern over hurting others. He tends to internalize his problems and tries to avoid outward expression of his feelings. Thirteen of the most important symptom differences have been selected for presentation in Figure 1.

be of the "stable unsatisfactory" type.

With regard to persistence of symptoms over time we found that all but 3 of the 24 symptoms were reported more frequently in the present than in combat or on discharge. Those less frequent at present are combat dreams, nail biting, and excessive use of alcohol. We noted the same tendency to report more symptoms currently than in the past also in the non-combat controls, perhaps reflecting a tendency for chronically ill people to complain of present rather than past symptoms or perhaps a tendency to convey the idea that they are not getting any better.

In the foregoing discussion we have not mentioned the results on the questionnaires from the small group of combat veterans who have never been psychiatrically ill. In marked contrast to the clinic groups, these men reported very few symptoms and little avoidance of situations similar to combat.

Figure 1

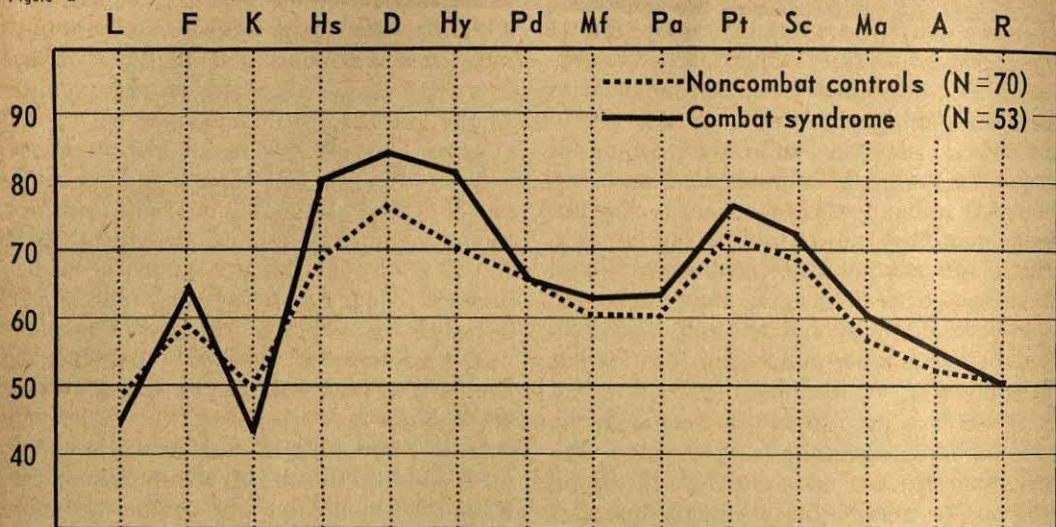


DIFFERENCES SIGNIFICANT AT THE .05 LEVEL OF PROBABILITY.

Over half of the combat group had been wounded in action compared with none of the controls. Eighty-two percent of these men report that their psychological symptoms have interfered with their abilities to provide for their families in contrast to 71% of the non-combat controls. More combat veterans are married than the non-combat controls; however these marriages tend to

Figure 2 will show that the mean MMPI profile of the combat group is generally more elevated than that of the non-combat controls. The only scale having a difference which reaches statistical significance is that of hypochondriasis, which is higher for the combat group at the .01 level of probability. (An earlier study at Langley Porter Clinic on acute cases of head injury showed that

Figure 2



patients who would become chronic had elevations on the hypochondriasis and hysteria scales.) An item analysis of all the MMPI items indicated that except for nightmares and sleeping difficulties the combat veterans as a group do not report particular physical symptoms but rather generalized tension and discomfort. Like the L.P.C. our experimental group also tended to be of lower middle class socio-economically. On the MMPI significantly more of the combat group reported that they had been slow learners in school and expressed naive ideas about religion. We therefore compared the educational and occupational level of the combat and non-combat control groups by means of the Warner rating scale and did find that our combat group were lower in both educational and occupational level than the controls. We wonder if slow learners may be slow unlearners.

Another characteristic of the combat syndrome group is that they lost a parent before the age of 14 more often than the general population (9). Classification according to the age of bereavement revealed the same incidence in the first 4 years of life as the next 8 years combined—a sharp reversal of the increasing incidence of parental bereavement with age in the general population. Our combat group resembles our total clinic population in both a higher rate of parental bereavement in childhood and a high rate of such loss in infancy compared to later childhood. This finding along with

their lower socio-economic status seems to be evidence of a history of deprivation which may have been predisposing to chronic illness. Despite the generally higher elevation of the combat veterans' profile, the item analysis findings are consistent with the official diagnoses in showing that these men do not have psychotic trends. (Only 4 combat veterans reported abnormal mental trends on the MMPI. These did not occur in the actual area of combat in 2 cases, the other 2 experienced loss of consciousness due to shell explosion.)

Implications for therapy. A new therapeutic technique is being instigated in a group of men with the combat syndrome. Our hypothesis is simple: combat was experienced in a group situation therefore it can best be abreacted in a group setting. Verbal reports of these men emphasize the intense symbiotic relationships of the combat unit, which when dissolved leave a feeling of lack of purpose. For these men we deliberately recreate a "band of brothers" and foster the abreaction they have hitherto assiduously avoided.

The great war has brought significant changes in our national life. The impact of this devastation has not become fully realized after a decade and a half. This is especially true for the members of our combat group which have spent over 100 hours together. We do not apologize for mental indigestion and lack of sleep following the two-hour sessions. These men have no-

where else to speak out. They have all changed under the guns. But their life of danger was exciting. There is a paradox here—after they looked death squarely in the face one would think that life would thereafter take on new meaning—for this group the reverse has occurred. These particular combat veterans cannot blot out their burdensome bloody memories. Of course the man in the street says "Forget it—the war was over 17 years ago" and therapists have said the same, forgetting that Freud taught us that the unconscious is timeless.

At present the sale of pocketbooks on combat is tremendous and combat and naked aggression are seen on every TV screen. Our group however has to fight off the tendency to turn the dial—they have had enough—a belly full—but they must have more (perhaps to satisfy some primitive predatory impulse which once ignited cannot easily be extinguished).

There were 1000 different wars. It was not the same for the group member who went down with the Monson as it was for another member who watched the same battle from the beach. The latter did not then know that in another war he would be defending the crucial ridge where the Communists attacked unexpectedly. He did not know then that he would become a double amputee and receive the Congressional Medal of Honor. And he did not know that the medal would at times become a millstone around his neck.

These particular men were loners. In the group they see themselves reflected in the other—and seek to find meaning in the gigantic useless slaughter which they physically survived. Every unexpected sound causes a perceptible jerk. Who will understand that—after 17 years? It was yesterday in the unconscious. These men have a message but who will listen? They have experienced Sherman's hell—they belonged to the most interdependent group in the world. But when a finger of this symbiotic group is yanked off the hand there is no attempt even to contact the others after the war. The group has raised the questions "Who are we? How did we get this way? And where do we go from here?" The degree

of symbiosis of the combat group has been only recently recognized in the literature but it has been known for several hundred years :

We few, we happy few
We band of brothers;
For he today that sheds his blood with me
Shall be my brother

—Henry V

SUMMARY

While there are similarities between the combat patients and the non-combat controls, a clear-cut picture emerges of the combat veteran syndrome with a severely disabling condition involving startle reactions, sleep difficulties, dizziness, black-outs, avoidance of activities similar to combat experience, and internalization of feelings. He is not however psychotic.

The achievements of the medical and allied professions especially in dealing with the acute combat cases have been valuable but less and less interest is being shown to this particular group of veterans. In many hospitals and clinics there is no official record kept as to whether a patient was ever in combat. It is suggested that if we are to continue to study this group of patients we must at least keep track of them. Particularly with the recent emphasis on "here and now" in psychotherapy a combat veteran's tendency to avoid discussing his traumatic combat experiences may easily create a tacit agreement between the therapist and the veteran to avoid the subject. We suggest that a continuing and broadening attack on the psychological aspects of these problems is indicated. Such a study will help to clarify our concept of psychoneurosis in general and contribute to the maintenance and improvement of these men.

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MIND TAPPING : PSYCHIATRIC SUBVERSION OF CONSTITUTIONAL RIGHTS

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The right to a public trial and to decent limits on methods permitted the prosecution for incriminating the accused are among the most important features of a free society. The more these liberties are compromised, the more tyrannical is the government's hold over the people.

The expanding use of psychiatric interventions in the enforcement of the criminal law has, in my opinion, steadily diminished our constitutional liberties. The recent practice of pretrial psychiatric examination of defendants, on the order of the court and against the wishes of the accused, promises to effectively nullify some of our most important constitutional rights—namely, the right to a speedy trial and the right, in the words of Louis D. Brandeis, “to be let alone.”

II

The Sixth Amendment to the Constitution guarantees that :

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

The Sixth Amendment does not say that this right is contingent on the ability of the accused to prove his sanity to the satisfaction of government psychiatrists.

The right to be let alone (more specifically, the privilege against self-incrimination) has received extensive judicial consideration—for example, in connection with wire tapping as a method of securing evidence for use in criminal trials. The majority of the Supreme Court judges—wrote Justice Douglas—have found “that wire tap-

ping violated the command of the Fourth Amendment against unreasonable searches and seizures, and infringed on the guaranty of the Fifth Amendment that no one person shall be compelled to be a witness against himself.” Chief Justice Oliver Wendell Holmes called wire tapping a “dirty business.” Associate Justice Louis D. Brandeis held that the Fourth and Fifth Amendments conferred upon the citizen, as against the government, “the right to be let alone—the most comprehensive of rights and the right most valued by civilized men. Wire tapping was the most oppressive intrusion into the right of privacy that man had yet invented.” Evidently, Brandeis did not anticipate involuntary pretrial psychiatric examination. This, I submit, is an even more insidious invasion of privacy, and an even greater violation of the privilege against self-incrimination, than wire tapping.

It may be objected that mind tapping, as against wire tapping, is intended for the defendant's benefit, and hence, in the final analysis, is not injurious to his “best interests.” Let us see if this is so.

III

Mental illness or incompetency, of sufficient severity, has, for a long time, constituted an excusing condition in the Anglo-American criminal law. Since mental illness is considered to be an excusing (or sometimes a mitigating) condition, it logically falls upon the shoulders of the accused, or his counsel, to introduce this issue into the criminal proceeding. In other words, just as the defendant has the right to plead either innocent or guilty, so he has the further right to plead insanity. He also has the right to plead that, because of the state of his physical or mental health, he can not effectively assist in his own defense, and hence ought not to be tried. This plea implies that the accused will submit to treatment so that, as soon as he is restored to health, he can be tried.

Progressive psychiatrization of the Ameri-

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can criminal law in recent decades has introduced a new wrinkle into this traditional scheme. In the first place, mental illness is no longer considered to be merely a "defense." Instead, it is considered to be a disease like any other disease—a scientific "fact" which is alleged to be "objectively verifiable" by psychiatric experts. Second, psychiatrists have shown great alacrity at meting out life sentences in psychiatric institutions to people whom they consider deserving of this fate.

These two developments have made the issue of the defendant's possible insanity of considerable interest and attractiveness not only to his defense counsel, but also to the prosecution and the judge. For the prosecution, establishing the defendant's insanity, instead of his guilt, may become an easy method of securing "conviction" and "imprisonment"; the defendant will be incarcerated in a psychiatric institution for an indefinite period—a sentence at least as severe and probably more so than would result from conviction and sentencing to a penitentiary. To the judge, too, establishing the defendant's incapacity to stand trial may be tempting; it will save him the effort of conducting a trial that may be filled with distressing emotional and moral conflicts and dilemmas. Both he and the jury will be spared a taxing existential encounter, if only the defendant could be shown to be crazy. These are only a few of the more obvious incentives and seductions that may motivate men to subvert the rights guaranteed by the Constitution and the Bill of Rights. There are others.

IV

There is an important difference, however, between wire tapping and mind tapping. Wire tapping can be carried out without the suspect's awareness, and hence also without his consent and cooperation. In contrast, mind tapping—for that is what involuntary psychiatric examination really is—requires a measure of cooperation on the part of the subject. The question arises, what happens if the defendant refuses to submit to pretrial psychiatric examination?

As a rule, pretrial psychiatric examination is a consequence of a plea of insanity on the part of the defendant. In some of these

cases, the defendant submits willingly to examination by his own psychiatrist, that is, by the psychiatrist retained by the defense counsel, but refuses to be examined by the psychiatrist retained by the prosecution. In the face of this dilemma, the courts and legal scholars have held, first, that a person's unwillingness to participate in a psychiatric interview is itself *prima facie* evidence of mental illness. The defendant may thus be committed to a mental hospital, where he will stay until he cooperates with the psychiatrists, and perhaps longer. Second, they have suggested that when a defendant pleads insanity, and yet refuses to submit to a pretrial examination at the hands of psychiatrists appointed by the court or by the prosecution, his refusal ought to be interpreted to mean that he is competent to stand trial.

Suppose, however, that the issue of insanity is raised not by the defendant (or his counsel), but by the court (or the prosecution). Suppose, further, that the defendant refuses to submit to pretrial psychiatric examination, and demands to be tried. What would happen in such an instance? How would the criminal action against the defendant proceed?

This is an exquisitely significant dilemma. If a defendant had the good sense to refuse to submit to a court-ordered psychiatric examination—for, obviously, today he has nothing to gain, and everything to lose, by submitting to it—he would force the hands of the judge and the prosecutor. Indeed, we might look on such refusal as similar to a well-designed experiment in physics. From its outcome, we could draw far-reaching inferences about the particular social processes that we are observing, just as a good experiment in physics allows us to draw inferences about the physical processes that are being investigated.

V

Like all crucial experiments, this one too seems to be carried out only very rarely. In most cases, the defendant is an indigent person, who, unassisted, is probably unable to understand the complexities of the situation; and he is usually poorly represented by court-appointed defense counsel. There may be other reasons as well why this

dilemma has thus far been not more sharply etched.

Recently, however, two clear-cut answers, each from a different source, have been supplied. The first comes from Stephen S. Chandler, Chief Judge of the United States District Court for the District of Oklahoma. Judge Chandler presented his views on law and psychiatry before the Hearing of the Senate Subcommittee on the *Constitutional Rights of the Mentally Ill*, in Washington, D. C., on March 30, 1961. In reply to a question about what he would do if he suspected that a defendant was mentally ill, Judge Chandler stated that he would send the defendant to the medical center for federal prisoners, at Springfield, Mo., for psychiatric examination. He enlarged on this :

I have sent defendants to Mr. Bennett's [James V. Bennett, Director, U. S. Bureau of Prisons] Springfield institution, and I find that I do not know where the money comes from to pay these psychiatrists but surely it is provided in 4244, is it—I have not read it in many years—but I just appoint them. The Department of Justice pays the psychiatrist, and they have never raised any question to me and I appoint good ones, and then see to it that the psychiatrist does not get any information—that *the Government does not try to influence him*. I ask him to take the case and study it and give me a report that I can depend on.

I do not appoint a psychiatrist in whom I do not have the utmost confidence as to his ability and integrity.

If there are any others, I do not know. I think it is important that the judge have confidence in any doctor whom he appoints.

I might say this : In this work we have lots of problems. Sometimes Government officials do not cooperate fully. But I want to say this about the witness just before me, Mr. Bennett, if a judge cares enough to go to the trouble to take matters up with Mr. Bennett, he will help you work matters out to the extent of his facilities. He does not have enough doctors, he does not have enough facilities, it is pitiful, and I would say to this committee that he is a great and good man. I have learned that in 18 years of contact with him as an official, and I would consider very seriously any of Mr. Bennett's recommendations, because I think he knows better than anyone.

I think he has no ax to grind with anybody except to do a fine job and he looks at it as some Government officials do not, from the

standpoint of the defendant as, of course, the judge should. [Italics added; p. 248.]

It should be noted that Judge Chandler tried to define this procedure as being for the welfare of the defendant.

Miss Elyce H. Zenoff, Counsel for the Subcommittee, then asked the question that constitutes the "crucial experiment" :

Miss Zenoff : "What do you do, Judge Chandler, if the defendant himself insists that he is not mentally ill and you think he is ?"

Judge Chandler : "If there is a question about it, of course, I appoint a psychiatrist, and then if the doctor says there is a question about it, I send him to Springfield to get a report from there, and the only trouble with that is it is as good an institution as Mr. Bennett can make it with the help he has, but he should have a great many more psychologists and psychiatrists there to help him, because at the present time I am informed, that *they can only consult with the man you send there about once a month* ; and as to the therapy that he gets and what they know about him, they do not have the staff to make the report that they would like to make, and we would like to have.

"What they do, they do very conscientiously."

Miss Zenoff : "What I mean, Judge Chandler, is if they report back to you that the man is mentally ill, and he says, I want to be tried ; in other words, I am not mentally ill, what do you do then ?"

Judge Chandler : "Yes. If they find that he is not able to stand trial because of his mental illness, why, I look into it and have a hearing, and if that is right, *he is left there until such time as they report that he is able to stand trial*. But at any moment that it came to me that *someone* thought he was able to stand trial, why I would see to it that an immediate hearing was had to determine that question." [Italics added; p. 248.]

The defendant's own plea to be allowed to stand trial would thus be overruled solely on the basis of the opinion of government psychiatrists. Note, further, that Judge Chandler went so far as to add that should it come to his attention that "someone thought he [the defendant] was able to stand trial," he would hold a hearing "to determine that question." Evidently, the defendant is not included among the people grouped under the heading "someone" for his protestations of sanity have al-

ready been ruled out of court by Judge Chandler.

But it is precisely to the accused—not to his wife or father or friend or attorney—that the Sixth Amendment guarantees the right to be tried!

Recently, in the prosecution of Mr. Bernard Brous, our crucial experiment was carried out with a somewhat different result. As will be recalled, Mr. Brous is one of the men charged with blowing up two telephone microwave relay towers in the Nevada-Utah desert, in May 1961. At the time of his arrest, he was quoted as saying that he committed these acts in protest against certain government policies. Thus, the unusual criminal acts presumably were intended to call attention to himself and his views.

According to an Associated Press news dispatch, dated August 14, 1961, printed in *The New York Times*, August 16, 1961, this is what happened to Mr. Brous:

The Government asked Federal Judge John Ross Monday to find Bernard Brous in contempt for refusing to undergo court-ordered mental examinations . . .

Judge Ross ordered psychiatric examinations Aug. 3.

United States Attorney Howard Babcock presented an affidavit by a psychiatrist, Dr. Otto Gericke, Superintendent of the Patton, Calif., State Hospital, who said Brous twice had refused to submit to tests.

The cat is now out of the bag. If the pretrial psychiatric examination is really for the defendant's benefit, why should he be punished for refusing to submit to it? If, on the other hand, it is not for his benefit, then it must be for the benefit of either the judge or the prosecution. In this case, mind tapping would be a clear violation of constitutional rights. Lastly, the prosecution's demand for finding Brous in contempt of court betrays bad faith and unfairness on the part of either the prosecutor or the judge, or both, for it shows readiness to "try" the defendant for his behavior in the court room at the very moment when the court shows itself reluctant to try him for his behavior in the Nevada desert.

Every reader, of course, is free to draw

his own conclusions from Judge Chandler's views and from the action of the government in the Brous case. I should like to re-emphasize two points.

In the procedure advocated by Judge Chandler, the mere suspicion of mental illness results in the defendant's loss of the right to be tried. In the Brous case, refusal to submit to court-ordered psychiatric examination is not considered an intelligent defense of one's constitutional rights, but instead is regarded as a fresh offense. Thus, the defendant who protests against involuntary mind tapping, like the "Fifth Amendment Communist" of the McCarthy era, is not supported by the court in his efforts to avail himself of his constitutional rights. Instead, he is attacked for his very self-defense!

VI

Reflecting on this problem, we should not forget the values inherent in the right to be tried, in *public* and by one's *peers*, and also the values inherent in the right to go to jail, instead of being subjected to unwanted psychiatric "treatments." In a jail, a person is "let alone"; in a mental hospital he may not be. A prisoner will be released after he completes his sentence, and possibly before. A mental patient may be required to undergo a change in his "inner personality"—a change that may be induced by measures far more brutal and intrusive than anything permitted in a jail—before the psychiatric authorities let him go. And they may never let him go. Commitment, unlike a sentence, is for an indefinite period.

How different the world might be today if only a handful of people had been sent away for psychiatric "treatments," instead of being tried and sent to jail. Gandhi, Nehru, Sukarno, Castro, Hitler—and of course many others, for example, the "freedom riders" in the South—have been sentenced to terms in prison. Surely, the social *status quo* could have been better preserved by finding each one of these men mentally ill and by subjecting them to enough electric shock treatments to quell their aspirations.

If this is not the sort of tyranny against which the Constitution was intended to protect us, what is?

VII

My argument rests. Some may object. After all—they may reply—psychiatrists are honest men. They would not claim that a person was mentally ill if they did not believe it was true. I have no intention of impugning anyone's honesty. But honesty is not the issue. The issues are mental illness and the right to be tried.

What constitutes mental illness is conveniently undefined. Its presence is ascertained by reference to the judgment of experts, in this case, psychiatrists. In this respect, mental illness is like witchcraft, which was also never clearly defined, but which experts had little difficulty diagnosing.

Given these circumstances, I submit that government psychiatrists (or so-called for-

ensic psychiatrists, generally)—like ecclesiastic witchhunters—will easily find large numbers of mentally sick people. This will be especially true whenever the "right" sorts of persons prefer the "charge" of insanity. If this is doubted, we should only ask ourselves how long the witchhunter who never found witches would have lasted in his job? Similarly, how long would a court retain a psychiatrist who found most defendants fit to stand trial, and who would never interfere on psychiatric grounds with the trial of a defendant who wanted to be tried. Finally, would such a psychiatrist be as popular as those of his colleagues who find the defendant incompetent to stand trial in virtually every case in which this issue is raised by an important personage, whether judge, defense counsel, or prosecutor?

BEHIND THE SCENES IN COMMUNITY MENTAL HEALTH¹

HERBERT DORKEN, Ph.D.²

The World Health Organization's philosophy is that health should be regarded not just as the absence of disease, but as a positive state of well-being. This far-reaching concept was reflected in the activities and concerns of World Mental Health Year; it is reflected in the studies of the Joint Commission on Mental Illness and Health. Jahoda's review(11) of the *Current Concepts of Positive Mental Health* (one Commission report) points to the broad social orientation that is implicit in these new community mental health programs. Here then is the ultimate goal: the conservation, development and full utilization of human resources.

Cast in these terms, the concept of community services emerges and is in line with public health philosophy. Public health, however, is concerned with the prevention of disease and the promotion of health through work primarily with the community rather than with the individual(18). For mental health personnel, this is in essence a new type of social contract involving the added dimensions of sound public relations and employer-employee accountability, since beyond the traditional diagnostic and treatment (clinical) services there lies a whole gamut of community services: consultation to agencies and professions in the community, collaboration and cooperation with them in the development of services, coordination and integration of related services, participation in community planning, the provision of public and professional education, and emphasis on survey, evaluation and research(5). I might add that we especially need to learn more about using and developing the strengths and abilities of men, instead of

eternally studying their weaknesses and sicknesses. A concern with human assets is more in keeping with positive mental health than endless dwelling on the ramifications of psychopathology. With this comment on the direction of much of our current research, I will return to the theme.

PUBLIC SUPPORT

The involvement of society facilitates, indeed, renders possible, service to it. The mental health associations often provide the medium through which public interest may become manifest. Certainly, in Minnesota, we owe much of our progress to the active support of the Minnesota Association for Mental Health. From the inception, when they supported the legislation under which we now operate, to their consistent and persistent interpretation to the public of our financial needs and present and projected services, they have been a moving force. At critical stages in program development it is advisable to involve key professional groups such as the state psychiatric, psychological, social work and medical associations in planning. They are often able to provide constructive guidance, and potential differences and difficulties may be resolved beforehand. Public support then and, of course, professional participation are the cornerstones of a community mental health program. But both the social and the professional aspects are influenced by factors, though known, which we tend to overlook—factors that operate, so to speak, behind the scenes.

SOCIAL IMPACT AND CHANGE

The increasing scope and expanding knowledge of mental health concerns has led to increasing specialization and to a process of differentiation and upgrading(14). Also, the complex cluster of interlocking bodies of knowledge and the growth of specialization is such that collaboration among a number of disciplines is now required. Current trends appear likely to continue. This increasing emphasis on the

¹ Presented in part, Third World Congress of Psychiatry, Montreal, Canada, 1961 and expanded following tri-state review of eastern community mental health services, Mental Health Project Grant OM-646.

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psychological, social and occupational factors in mental health suggests an expanding and more significant role for the behavioral sciences.

In terms of the American value system, the capacity of the individual to achieve is one of the most fundamental conditions of the good society. Since mental health is one of the foundations of this capacity, its importance takes on a broader meaning. The gathering impetus of the mental health movement shows plainly that it is a developing social force(16). People consider now that they have a right to a reasonable adjustment. They believe that science and the mental health professions can improve their lot. As a result, communities are becoming increasingly active in demanding and in organizing comprehensive mental health programs.

The needs, resources and social groups in a society are in continuous change. This should be reflected in appropriate program changes or there will be the equivalent of a cultural lag. Unfortunately, there is a tendency for professional roles and services to become stereotyped, if not biased(19). Such professional expectancy leads to static patterns and narrow definitions which stifle creativity. A spirit of restlessness must be induced or maintained, for if progress is our aim, then programs must have a "growing edge" in search of new ideas, improved services and better utilization of the full range of community resources.

We are over-prone to consider mental disorder as the prime factor leading to treatment or demand for mental health service, when, in many instances, the degree of community tolerance will provide the basic impetus to seek professional assistance. There is a distinct relationship between social conditions and the ways in which mental disorder is dealt with by the community (6). Mental illness in social terms is behavior deviant from the norm. Expectations within a particular society and the context of the action are factors bearing heavily on local attitude and determination which in turn are related to need, demand and utilization of service, and, ultimately, serve to shape professional services and practice.

Taking the larger picture into considera-

tion brings the total range of disordered behavior into focus. These ramifications are an integral part of society. To the extent they are overlooked, we fail to provide an effective community service. The professional staff, then, might be viewed as change-agents who would attempt to induce constructive social change in the community. We have only begun to explore the potential mental health effects of adverse social conditions. Certainly, failures in adjustment, shifts in values and cultural patterns, and social dysfunction, as well as disharmony within families, are hardly individual matters. The findings of research on group dynamics and communications, then, are quite germane and should become a part of our practice and program planning.

PREVALENCE-INCIDENCE

Without proper survey and data we do not know the nature and extent of actual problems requiring attention; we do not know whether we need a particular mental health service. Certainly, it is not another "industry" to be attracted to town. cursory surveys may magnify the problem by use of prevalence statistics, but the number of active cases is not an appropriate basis for making probability statements for which incidence rates—the number of new cases during a specified interval—are essential, though seldom obtained(10). Each community has its backlog of cases with protracted mental disorder. If this backlog could be worked through at the case level by effective management, treatment, placement or referral, the mental health center would begin to deal with the natural base rate or incidence of mental disorder in the community rather than its prevalence.

Related is the need for continuous program analysis; failure to evaluate past work and future needs critically results in errors and mistakes never becoming known and, presumably, never corrected. Stock taking is essential, not only of the mental health services but of the major social, economic and demographic community data as well; this is in constant change, the urban population drift being merely one index. The everyday operations and concerns of community services are rife with intriguing and

very practical research problems. Here again, pathetically little is being done.

FAMILY THERAPY-AGENCY COMPLEX

Without trying to minimize the extent of the problem, several studies have shown (7) that a relatively small number of families and individuals keep producing the bulk of agency activity (2). This activity by many agencies with the same family, the multi-problem family, creates the impression of vast numbers when actually it is a symptom of uncoordinated activity, often with different facets of the same core problem. The need for an integrated system of discovery, identification, ambulatory treatment, nursing home and hospital care is pressing. That the multi-problem families involve a small segment of the population suggests that it may be more feasible than many of us think to serve the total community, as problems of the large majority may be more amenable to assistance.

The history of health and welfare service development is replete with examples of rivalry, competition, duplication and fragmentation. For sake of clarity perhaps in the mental health field, attention has been focused mainly on the individual. Yet, in our society, the family is the basic social unit. Each family will have its unique patterns of interaction. Evaluation and treatment, if geared to this natural social unit, would not only avoid many of the handicaps of partial or incomplete service, it would facilitate the resolution of the emotional and social problems not just of the patient, but of other family members, and lead to a realignment of family patterns of interaction, thereby facilitating progressively more favorable adjustment.

If service is to be comprehensive it should be available to all within the community; all ages, all relevant disorders of behavior, all agencies and professions. Fragmented service may be easier to initiate (e.g., for children, the retarded) but more difficult to sustain, since it depends more on a specific interest group than on community wide support. In order to gain the stability that comes from community wide support and involvement, the service must be widely available and not the agent of any one group or profession (related service) or

even identified in the public mind as such (restricted service). The location of the community mental health center often has a significant bearing here in shaping the public image of its service. Location in a welfare building, school or hospital, to illustrate, generally creates the assumption, respectively, of service for the indigent, the children, the sick—thus impairing a community wide orientation and service.

CENTER-HOSPITAL RELATIONSHIP

Considerable attention is paid to the coordination between mental health centers and state hospitals, particularly in regard to aftercare. In some states this may be their major function. By contrast it is seldom thought that centers may be dealing with essentially different segments of the population. In Minnesota, but 5% to 8% of center admissions are referrals from state hospitals, while conversely, termination by referral to hospital varies from 6% to 10% of cases closed. The trend, if any, is for centers to refer progressively fewer patients to state hospitals. Our recent statistics would indicate that the centers deal with a population largely different from that of the mental hospitals and that they are reaching a large segment of the community having emotional, mental and social disorders, and, it may be assumed, not previously reached.

The progressive emphasis on community services notwithstanding, there has been a sharp rise in the diagnostic and treatment services provided by the centers. The number of new cases accepted in 1959-60 was more than double the pace of the previous year (22) while 1960-61 showed a 64% gain over 1959-60 with but one new center and a 25% increase in staff. The total of new admissions (4,731, and now projected at over 5,200) has risen to more than double the first admissions (2,188) of mentally ill to all state hospitals (7 hospitals, 9,600 beds) and is substantially above total admissions (3,142) and even hospital admissions plus return from provisional discharge (3,975). This is roughly an average rate of 28 new admissions per center per month, carried by a total of only 43 professional staff (latterly) at 14 centers, devoting but an average of 48% of professional time to clinical services.

PREVENTION-CONTROL

Much lip-service is given to the need for a preventive approach to mental illness, for programs of public and professional education, for coordination and consultation, for the concentrated development of additional community resources, and for research; yet, when any mental health center is established, there is often an overwhelming demand for clinical services which may become so exclusive that program control and direction are basically lost.

In developing the service, at the outset, in response to community need, there is usually the hope that it will help to control the problem and have a preventive impact. But this development is open-ended, a progressively increasing amount of service is provided, yet responsibility for its effectiveness is basically evaded. Service does not, by itself, lead to prevention or establish control, is usually without focus and direction and, most important, is without responsibility for results(3). Specifically, what are the problems and their proportions? How are these conditions modified, controlled or improved? It is essential that the critical factors be isolated in order to enhance the impact of our services and techniques.

Then there is the concept of accountability, a most challenging proposal(17), though, generally, a most unwelcome and unpopular notion among clinicians who are prone to be ego oriented rather than task oriented. A statement of activities is not synonymous with accountability. Yet, without defined goals and accountability, control and direction are lost and prevention fades into obscurity. Moreover, and this is seldom appreciated in the field, to the public official accountability is a reality of everyday, whether knowledge is incomplete, adequate or even accurate; answers, often critical, must be given.

We have only begun to consider the potential of a reorientation of total community health and welfare services leading to a solution of the community problems stemming from disordered behavior. Rather than deal with symptoms of behavior, attention must be focused on the pathological processes giving rise to social disorder. This need for service has been separately in-

terpreted by each agency. Finally, the problems related to criminal and antisocial activity accounts for two-thirds of the annual incidence of disordered behavior, yet communities have generally ignored this area in planning services. Buell's(3) findings in the Community Research Associates studies hold much promise and have tremendous implications.

UNFOUNDED CLAIMS

At times, some of us venture beyond the realm of our skills and a "halo effect" may mask our inadequacies. At other times, overextended claims may be made for certain services, and this can prove awkward later on, especially if no provision is made for the demonstration of results.

All too often, in the mental health field, our procedures are founded on unconfirmed hypotheses rather than valid explanations. Therapeutic zeal may militate against scientific determination, particularly in regard to the efficacy of psychological forms of treatment. Despite the high fashion and great investment of time over years in long-term, intensive, dynamic psychotherapy, there is no evidence that it is superior to less rigorous methods, in fact it would seem that methodology is being preserved for its own sake(2, 19). It is, of course, asking a great deal of many psychotherapists and analysts to cooperate in trying to find out whether they may be deceiving themselves as to the usefulness of their life's work(12). Rogers(15) and others, however, have made some definite progress in their attempts to isolate (or insulate?) the factors necessary for therapeutic personality change.

LOCATION-DISTANCE

Service, to be provided, must be available. Logical planning would fix location at the hub of the professional and medical community for the area and at the center of trade and transportation. Such logical planning (sociological) may be set aside by local prejudice, political considerations and chamber of commerce activity. Witness state and provincial hospital programs, the majority of such hospitals in North America being located in towns of under 10,000 population(22), in the shadow of isolation, with resultant removal from the sphere of

related services essential to programming.

The growth factor of organizations perhaps has led to the development of over-large mental health services responsible for vast geographical areas, the patient alas fading into insignificance. The lesson for future community mental health planning is that small centers, well disbursed, will render better service—a service more dependent on individual skill than on organizational size or structure. The natural geographical boundaries will vary from place to place. In Minnesota, with its relatively low population density, a radius of 60 miles was found to be the effective limit(8), about an hour's drive by car. Adequate coverage at greater distance could only be achieved by regular staff travel into the outlying area.

Distance, while it has a very direct relation to frequency or use of clinical service (diagnosis and treatment), also has a qualitative effect, the greater the distance, the more serious the disorder, and the more inappropriate it becomes for an outpatient service. There is a significant relationship between the increase in distance and the severity or flagrancy of the disorder which compels people to overcome this barrier. Outpatient services are more frequently unsuitable and follow-up more impractical. If anything, distance causes an even greater impairment of community services (consultation, in-service training, community planning, coordination)—the services essential to maintenance of a public health orientation in program—the services more closely involved with social structure.

FINANCING

Stable and sufficient financing is basic to the proper development of a full service and the initial budget is critical. If realistic provision is not made at the outset for the predictable complement of professional and clerical personnel at regionally competitive salaries and with necessary equipment and supplies, then neither personnel nor facilities will be sufficient and an overburdened agency will be repeatedly turning to its backers, hat in hand, for one item or another—a process guaranteed to antagonize and discourage staff, board and local government. By contrast, a complete initial

budget facilitates recruitment to complement and purchase of all necessary equipment (budgeted funds not expended may simply be returned to source or placed in a special fund for future contingency). Then, in the second and third years, the funds previously necessary for equipment, say \$4,000 (likewise fee revenues), are available as a cushion to accommodate salary increments with the result that the cost to the sponsors remains stable for at least three years while the center establishes and proves itself. At this point, the likely attitude, on returning to the sponsors—if necessary—seeking a moderate adjustment of budget, will be one of reasonable expectation and efficient management.

A positive relationship exists between community visibility, knowledge of services, public support and local financial backing. Quite apart from the wider range of services received through a program stressing community services such as consultation, community planning and promotion, in-service training of community professional groups and social science research, the program by the very nature of its activities is highly visible and known to many key figures locally. The details of clinical services, by contrast, are never known. They are (as they should be) strictly confidential. Few then learn of the value of this service; the client is seldom outspoken and those who are to provide financial backing have but a statistical report and formal description of the services for consideration. It is a difference which may well be critical.

Services do not operate properly without sufficient fiscal support and reasonable assurance of continuity, while insufficient staff or facilities results in qualitative as well as quantitative program curtailment. Modern programming in the community mental health field is supported by some forward-looking legislation(20) that typically, on a matching-grant basis, leads to a partnership between state and community with the dual advantage of central leadership and local involvement. Local identification and responsibility is encouraged, leading to a more flexible adjustment of service in keeping with local needs. Then too, within budgetary limits, expenditures are subject to local determination where the communi-

ty may place greater value on professional talent and service because they seek it.

The cost of staffing may seem higher, for decentralization requires a greater number of costly well-trained personnel since more responsibility is delegated. Turnover is generally less, however, and the effective productivity of smaller quality units higher.

A larger proportion of cost is allocated to personnel (who do the work) rather than being tied up in equipment and major capital expenditures (buildings). In the Minnesota program, salaries typically account for 80% of a mental health center's budget, while the total annual cost per capita, for the area served, at full scale operation is only 90¢ to 95¢. In terms of cost per hour based on total expenditures and total professional hours in fiscal 1960-61, the median hourly cost was \$9.77 while local cost was under \$5 per hour. Considering the extent of service, it seems an excellent return.

PROFESSIONAL PARTICIPATION

Community mental health programs are designed to provide a broad range of services at the local level. The open-ended, complex and flexible nature of these programs, however, calls for fully trained personnel in all disciplines. There is no institutional control to fall back on, no available professional senior to turn to; "you are it," you stand or fall on the ability to assume responsibility, provide service, cooperate with others and "fit in" with the community.

The diversity of local demands and problems underscores ability and accomplishment more, in effect, than professional background(18). Also, particular abilities and talents do not necessarily follow professional stereotypes in hierarchial fashion, nor definition of function by profession. Generalization frequently required on the part of staff may be one factor accounting for the less strict division of roles and responsibilities among professions in this type of program. Professional growth and maximum achievement, however, are encouraged by delegation of responsibility. The opportunity inherent in a diversified program for utilization of training and skills not only precipitates growth, but also facilitates recruitment, provides greater job satis-

faction and encourages tenure. The administrative task is to create a climate in which each staff member is free enough and challenged enough constantly to precipitate himself into just manageable difficulty(9), an expectancy of excellence which leads to its pursuit. Quite apart from the impact this may have on the pace, nature and direction of program development, it creates a favorable professional climate, in turn lending desirable reinforcement to the service.

Even before it was so clearly documented by Albee(1), the severe professional shortages in the mental health field were widely felt, if not known. In the face of the magnitude of this dilemma it is incredible that greater measures have not been taken in both the recruitment and training of personnel. The modest "indenture-stipend" programs, now fairly common, only scratch the surface. What attempt is made to heighten the potential interest of the undergraduate, let alone those in high school? And few are the mental health services that have well developed training programs in coordination with the universities for the main mental health professions. To project the continuation or development of a network of services without an active plan for and role in training is rather irresponsible. Are we too busy with the difficulties of personnel shortages to take measures to solve the problem?

A frequent stopgap is the "hand-over-hand" competition with neighboring mental health services for personnel. Even this expedient which only shifts the shortage fails because there is failure to appreciate that the competition for such manpower is basically not with other comparable services but with industry and private practice(4). Moreover, some services, despite the noise from wheel-spinning, have not yet really answered the prime question: Do they really want well qualified psychiatrists, psychologists, social workers and others—and all that this implies?

SERVICE AND SALARY

All too often, neither training, responsibilities, conditions of employment nor salary bear a realistic relationship. The more common pattern is: professional standards, too

low ; responsibilities, too varied and far in excess of training ; personnel, equipment and space, insufficient ; and salaries, non-competitive. There are many very serious ramifications to this. Two conditions seem most common :

1. A salary unlikely to attract well qualified personnel : to fill positions, professional standards are progressively lowered, but once inferior staff has been recruited, the agency is deprived of the caliber of staff originally wanted, and more serious, the least qualified are the least mobile. Intended responsibilities become inappropriate. Whoever heard of someone with a year or two of medical training (incomplete training) being recognized as a physician ? The same principle holds equally for psychologists, social workers and medical specialists.

2. Seduction by fringe benefit : the basic position and/or remuneration is uninviting. By recourse to various "arrangements," the wrapping for the package is made attractive. Once recruited, the man's talent and identification are divided, his income cumulative. And the basic task ?—probably still unmet. This solution is an insidious one, having the seeds of self-destruction. It leads to professional drift away from the agency and obscures identification. Service becomes less reliable and the arrangements progressively more difficult to justify—certainly to the public. Both service and staff are prostituted, yet eventually may be held accountable.

PROFESSIONAL STANDARDS

Suppose we accept the notion of the "team" and that various professions can make a serious contribution to mental health services. If so, all must be fully trained and sufficiently experienced for an atmosphere of cooperation and respect to prevail, indeed, be possible. The conviction that only fully trained persons can adequately bear full professional responsibility results in comparable competency among the professions and artificial hierarchies tend to dissolve. Administrative responsibilities may then be determined on a "best man" basis. Responsibility is thus directly

related to talent and an effective and efficient service can be expected.

Paradoxically, it might be added, that though mental health personnel, with all too few exceptions, exhibit a general disinterest or dislike of broad administrative and fiscal matters, the number of able or qualified administrators falls substantially short of those who believe that the role is properly theirs. Academic training in psychiatry, psychology or social work is rarely germane to administration. Thus, it is difficult enough to secure an able administrator from the three professions, let alone any one.

When we deal with services, positions and qualifications, we are faced with the trials of job classification or merit system procedures. The aim is very clearly an orderly arrangement by duties and responsibilities of all positions(4). But this fair and logical aim is all too often fraught with two major handicaps. In the first place, technology and the professions are in fairly rapid change with the result that Civil Service structures lag behind professional developments and there is often a rigidity, because of the mere size of the structure, that impairs adjustment to professional developments or makes it almost impossible to accommodate them. More serious, however, is the strong conflict in value systems between the ways in which competence is assessed by the profession and by Civil Service(13). This is most evident in the two differing views of a college degree, particularly a graduate degree. The common professional assumption that specific academic achievement per se qualifies an individual for a job is a presumption not always shared by Civil Service. In fact, professional requirements are often considered discriminatory, supposedly blocking the appointment unjustly of persons who, it is averred, can do the job though they have not met the usual professional requirements.

This procedure runs contrary to the notion that with intimate knowledge and experience, a profession knows its resources and limits best. Rather, the classification officer becomes the ultimate judge. Regardless of the inaccuracy, this is hardly an approach designed to elicit the cooperation

and interest of well qualified (by the professions' standards) personnel.

In some professions, notably medicine, and in some services, such as Minnesota's Community Mental Health program(21), this conflict has been solved by resort to legislation (or Rule and Regulation) of the professional standards. Any amendments, as deemed necessary, may then be sought directly by the professions or the department concerned. In setting standards for public service in this way, it is likely that the minimum requirements will be high and the maximum open. The only clear way for change then is up; that is, improved standards and standards having professional recognition.

SUMMARY

Comprehensive community mental health programs follow the pattern of public health philosophy which places the need for community service paramount to individual considerations. Public support and professional participation are seen as the cornerstones of such a program, but both the social and professional aspects are influenced by factors which we tend to overlook. In the community mental health field we have been all too prone to develop services without consideration to solving the vast community problems created by a wide range of disordered behavior. Proper integration and control of local services could have a preventive impact. This must become the ultimate goal, for without it, there is no solution.

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low; responsibilities, too varied and far in excess of training; personnel, equipment and space, insufficient; and salaries, non-competitive. There are many very serious ramifications to this. Two conditions seem most common:

1. A salary unlikely to attract well qualified personnel: to fill positions, professional standards are progressively lowered, but once inferior staff has been recruited, the agency is deprived of the caliber of staff originally wanted, and more serious, the least qualified are the least mobile. Intended responsibilities become inappropriate. Whoever heard of someone with a year or two of medical training (incomplete training) being recognized as a physician? The same principle holds equally for psychologists, social workers and medical specialists.

2. Seduction by fringe benefit: the basic position and/or remuneration is uninviting. By recourse to various "arrangements," the wrapping for the package is made attractive. Once recruited, the man's talent and identification are divided, his income cumulative. And the basic task?—probably still unmet. This solution is an insidious one, having the seeds of self-destruction. It leads to professional drift away from the agency and obscures identification. Service becomes less reliable and the arrangements progressively more difficult to justify—certainly to the public. Both service and staff are prostituted, yet eventually may be held accountable.

PROFESSIONAL STANDARDS

Suppose we accept the notion of the "team" and that various professions can make a serious contribution to mental health services. If so, all must be fully trained and sufficiently experienced for an atmosphere of cooperation and respect to prevail, indeed, be possible. The conviction that only fully trained persons can adequately bear full professional responsibility results in comparable competency among the professions and artificial hierarchies tend to dissolve. Administrative responsibilities may then be determined on a "best man" basis. Responsibility is thus directly

related to talent and an effective and efficient service can be expected.

Paradoxically, it might be added, that though mental health personnel, with all too few exceptions, exhibit a general disinterest or dislike of broad administrative and fiscal matters, the number of able or qualified administrators falls substantially short of those who believe that the role is properly theirs. Academic training in psychiatry, psychology or social work is rarely germane to administration. Thus, it is difficult enough to secure an able administrator from the three professions, let alone any one.

When we deal with services, positions and qualifications, we are faced with the trials of job classification or merit system procedures. The aim is very clearly an orderly arrangement by duties and responsibilities of all positions (4). But this fair and logical aim is all too often fraught with two major handicaps. In the first place, technology and the professions are in fairly rapid change with the result that Civil Service structures lag behind professional developments and there is often a rigidity, because of the mere size of the structure, that impairs adjustment to professional developments or makes it almost impossible to accommodate them. More serious, however, is the strong conflict in value systems between the ways in which competence is assessed by the profession and by Civil Service (13). This is most evident in the two differing views of a college degree, particularly a graduate degree. The common professional assumption that specific academic achievement per se qualifies an individual for a job is a presumption not always shared by Civil Service. In fact, professional requirements are often considered discriminatory, supposedly blocking the appointment unjustly of persons who, it is averred, can do the job though they have not met the usual professional requirements.

This procedure runs contrary to the notion that with intimate knowledge and experience, a profession knows its resources and limits best. Rather, the classification officer becomes the ultimate judge. Regardless of the inaccuracy, this is hardly an approach designed to elicit the cooperation

and interest of well qualified (by the professions' standards) personnel.

In some professions, notably medicine, and in some services, such as Minnesota's Community Mental Health program(21), this conflict has been solved by resort to legislation (or Rule and Regulation) of the professional standards. Any amendments, as deemed necessary, may then be sought directly by the professions or the department concerned. In setting standards for public service in this way, it is likely that the minimum requirements will be high and the maximum open. The only clear way for change then is up; that is, improved standards and standards having professional recognition.

SUMMARY

Comprehensive community mental health programs follow the pattern of public health philosophy which places the need for community service paramount to individual considerations. Public support and professional participation are seen as the cornerstones of such a program, but both the social and professional aspects are influenced by factors which we tend to overlook. In the community mental health field we have been all too prone to develop services without consideration to solving the vast community problems created by a wide range of disordered behavior. Proper integration and control of local services could have a preventive impact. This must become the ultimate goal, for without it, there is no solution.

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A COMPARATIVE VIEW OF AGGRESSIVE BEHAVIOR¹

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Freud published his dualistic classification of instincts about 40 years ago. Since that time, concepts about hostility and aggression have had a particularly important place in psychiatric theory. Many psychiatrists have moved away from Freud's original view that aggressive or destructive tendencies were primary human instincts or at least have been reluctant to call them "instinctive." However, even at the present time, aggression is commonly thought of as a motivational state or drive which appears either overtly or in a variety of disguised forms in human behavior. Like other drives, it is conceptualized as something which can either be acted out or sublimated, repressed, displaced, or otherwise defensively manipulated. Aggressive impulses turned toward the self are used to explain depression and suicide.

In view of the important place accorded to aggression by psychiatrists, it is not surprising that a number of workers have been led to study the aggressive behavior of lower animals. A variety of species, including fish, rodents, ungulates, carnivores, as well as primates, have been investigated under both field and laboratory conditions(1). An interesting feature of this literature is the remarkable unanimity among investigators about the nature of hostility and aggression in animals. The research described in this paper, while novel in some aspects, mainly confirms the findings of others. It will serve to illustrate the kinds of information which can be obtained from research in comparative behavior.

The subject of the experiments to be reported is the Northern Grasshopper Mouse, *Onychomys leucogaster*. Several groups of these animals, along with other species of wild rodents, were obtained for laboratory study in a search for animal behaviors which might serve as screening

tests for the psychopharmacological effects of drugs. In the course of this survey, the unique value of this mouse for experimental study of agonistic behavior was incidentally found.

Onychomys leucogaster is a stocky rodent with a short tapering tail. Adult mice weigh 25-40 grams and are 5-6 inches from the tip of tail to nose. The under parts of the body are white, the upper portion grey in juveniles, brownish to pinkish cinnamon or buff in adults, and again grey in old age(2). The subspecies studied was *utahensis*, originally trapped in semi-arid, sagebrush covered terrain west of Salt Lake City, Utah. They had been in captivity for several generations when first studied from a behavioral standpoint.

Onychomys are unusual mice in that they are carnivorous and predatory. Despite their small size, they trail, stalk, seize other mice and kill them quickly by gnawing into the brain stem at the base of the skull. As predators, they are reported to range over a wider area than other mice, preempting the burrows of other small animals as they move from one locale to another. In terms of aggressiveness and method of killing, *Onychomys* have many similarities to the weasel and to a lesser extent to the shrew, whose limited vision and olfactory sense make him a less effective predator than *Onychomys*.

These mice have a variety of features which should encourage investigators to use them as experimental subjects for studying aggression. First, they are small, easily handled, and inexpensive to maintain in the laboratory. Secondly, because they are naturally predatory, their aggressive behavior is easily elicited, continues with minimum reinforcement, and persists in stable patterns for long periods. Thirdly, episodes of fighting can be readily quantified since this behavioral pattern is highly predictable under a given set of conditions and offers easily recorded endpoints(3). In most of the studies in this paper, the measure of aggressive level was the time elapsing between the introduction of the

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victim and his death. This was supplemented by a simple rating scale to indicate frequency and persistence of attacks. Finally, it was found that experiments could be devised to study the effects of prior experience and social interaction upon the aggressive behavior of *Onychomys*.

EXPERIMENTAL STUDIES

The mice were raised in colony cages (18" x 18") in groups of five. Under these conditions no fighting occurs. Such animals are designated as "novice" since they have had no fighting experience. If care is used to avoid the stimulus conditions which precipitate fighting, mice of other species can be introduced into colonies of novice mice. Furthermore, novice mice may be placed in separate cages and paired with alien mice. For descriptive purposes, these are called respectively, "colony coexistent" and "paired coexistent" groups. An interesting sequence occurs when the strange mouse is first introduced. *Onychomys* immediately approaches and, after sniffing the body of the strange mouse for a few moments, "acts out" the method of attack characteristic of his species. He approaches from the rear, grasps the stranger with front and rear legs, and places his mouth at the base of the skull, even taking a few playful nips. After two or three repetitions of this performance within the first few hours after the stranger's arrival, the behavior disappears, coexistence ensues and different species share the same nesting area. Mice which have coexisted with *Onychomys* include a variety of both wild and laboratory mice.

An early goal was to determine conditions which precipitated aggression, reenforced it, or conversely inhibited it. We first placed an *Onychomys* and a potential victim together under a one liter beaker inverted on an electrified grid. A few mild shocks induced immediate attacks. It was soon found that shocks were not necessary and that confinement in the beaker for 5 minutes once a day led to lethal attacks on the first to the eighth trial. The mean for 13 animals was 3.6 trials. Non-lethal attacks invariably appeared during the first trial. The tendency in early trials was for *Onychomys* to spend part of his time exploring

and seeking to escape from the beaker. Exploratory activity, however, soon disappeared and *Onychomys* would concentrate on attacking his companion.

Any environmental change which excites *Onychomys* will increase his aggression. The more active the victim, the more he will stimulate *Onychomys* to attack. The survival value to the potential victim of catatonic immobility or "playing possum" is dramatically evident in these experiments. Artificially reducing the excitability of the victim by tranquilizing him with chlorpromazine will prolong his survival time. The effects of electric shocks have already been described. Tweaking *Onychomys*' tail with forceps or rattling the beaker similarly agitate the animal and heighten aggression.

In summary, the aggressive behavior of *Onychomys* is a response to stimulus conditions which heighten the excitability of the animal. These include painful stimuli, sudden changes in the environment, vigorous activity on the part of the victim, and confinement in a small space. The nature of the "emotional" state induced by these conditions can, of course, only be inferred. However, it is reasonable to assume that the experience of pain and unfamiliar environmental changes cause fear. The technique of confinement probably acts through the latter mechanism. Placing the animal under a beaker or progressively decreasing the amount of space available to the animal in its cage disrupts its territoriality. The concept of territoriality refers to the characteristic way in which animals distribute living space between one another and maintain separation from other species. Normal territoriality maintains a tolerable level of stimulus contacts with other animals. Conversely, reduction of living space below critical limits is emotionally disturbing to animals. In *Onychomys* this disturbance triggers attack behavior. By killing the alien mouse, *Onychomys* reduces its stimulus value to that of a corpse, restoring the situation to a more tolerable one. Attack behavior can also be precipitated in *Onychomys* by conditioned fear. This was accomplished by exposing the animals to buzzer and shock trials in a grid-floored plastic box. The buzzer or even the environ-

ment in which conditioning has been carried out will induce conditioned animals to attack a companion mouse with which they have previously lived in peaceful, paired coexistence.

The effectiveness of starvation as a means of initiating aggression in novice *Onychomys* in paired coexistence with alien mice was studied. Pairs of animals were starved from periods of 2-8 days. They were observed regularly but no aggressive behavior was seen. It can be concluded that severe starvation, even in this predatory animal, has little or no stimulus value for initiating aggressive behavior. On the assumption that fear as a factor precipitating aggression would be associated with sympathetic discharge, an effort was made to simulate the humoral aspects of this response by administration of epinephrine in various doses to *Onychomys* in paired coexistence with other mice. However, no signs of aggressive behavior were produced by treatment with this drug. This negative finding is again consistent with the general principle that internal, physiological changes are insufficient stimuli for the fighting response.

During early fighting experiences, if the victim is too large, vigorous or aggressive in response to attack and *Onychomys* is unsuccessful in his efforts to effect a kill, he will soon stop attacking. If the victim survives for 12-24 hours, peaceful coexistence ensues. If the victim mouse defends himself too vigorously or jumps about wildly in the confined space and accidentally knocks *Onychomys* about, *Onychomys* assumes an upright defensive posture and, if the trauma continues, will temporarily fall into a catatonic state. Such encounters can be produced by using the large, vigorous Pinon mouse as a victim. As an alternative to continued aggression, *Onychomys* may therefore cease attacking, go on the defensive, or withdraw into catatonic immobility. Even after the aggressive pattern is well established, it can be suppressed by repeated failures or systematic defeat. However, it is otherwise quite permanent. Animals which have had no fighting experience for over 6 months will attack and kill victims placed with them, though not with the

efficiency of mice regularly given opportunities to fight.

As in the case of other animals, *Onychomys*' fighting is strongly reenforced by success. Therefore, a series of easy victories increases aggressiveness and rapidity of kills. The size of the victims may then be gradually increased until *Onychomys* can readily kill mice which weigh twice his own body weight. The time elapsing between introduction of the victim and the kill may be as brief as 20 seconds. When fighting trials are carried out at regular intervals, at the same time of day, with victims of the same species and of approximately equal body weight, the time for the kill becomes sufficiently constant to be used as a baseline for studying the influence of various factors upon aggressive behavior.

So far, only preliminary studies in a small number of animals have been carried out on factors which might influence stabilized levels of aggression. However, the results are sufficiently interesting to deserve mention at this time. Total starvation for 24- and 72-hour periods does not increase aggressiveness. The effects of chlorpromazine given orally in doses of 16, 30, 32, 37.5, and 45 mg./kg. were studied. *Onychomys* is remarkably resistant to chlorpromazine. Although slight sedation appeared with dose levels of 16, 30, and 32 mg./kg., there was no evidence of behavioral toxicity, and the level of aggression and speed of kill were not significantly altered. However, 37.5 mg./kg. produced evident ptosis and slight to moderate ataxia. At 45 mg./kg., motor impairment was severe. While these animals did attack the victim, they did so less frequently and with less persistence and failed to kill during the 5-minute trial. It would appear that chlorpromazine alters fighting behavior in *Onychomys* only in doses which produce gross toxicity and that motor impairment is a major factor in their failure to kill the victim.

An even more interesting observation, however, was made when the fighting behavior of the animals was studied the day after a single fighting trial on chlorpromazine. To our surprise, in all of the 8 animals which received 16, 30, and 32 mg./kg. doses, the level of aggression was much increased and the time for the kill marked-

ly reduced the next day. This effect was most striking after trials at 16 mg./kg., but also clearly evident after 30 and 32 mg. doses. All of these animals had remained aggressive and made kills on their chlorpromazine trials. In contrast, all of the 8 animals which received 37.5 or 45 mg. doses were less aggressive the day following chlorpromazine and killing times were appreciably longer than pre-drug levels or did not occur at all during the 5-minute trial. There was no evidence of a drug hangover in the form of motor impairment to account for this effect. Apparently the experience of a successful fight, during which *Onychomys* is medicated with chlorpromazine in doses which do not impair his capacity to kill, powerfully reinforces aggressive behavior on the next opportunity to fight. By the second day after medication, killing times return to pre-drug levels. If animals fail to achieve fighting success because of chlorpromazine, the experience has an inhibiting effect upon aggression in the next trial, as would failure from any cause. These findings suggest an interesting hypothesis, i.e., the affective state of an animal at the time he performs an aggressive act modifies the reinforcing value of the experience for future behavior of a similar kind. It is possible that anxiety reduction from chlorpromazine during the aggressive act accounts for its enhanced reinforcing value. The converse, the effect of chlorpromazine upon the experience of defeat, remains to be systematically studied. However, the finding in animals which received 37.5 and 45 mg./kg. doses suggests that chlorpromazine does not reduce the inhibiting effects of failure.

The aggressive behavior of groups of 3-4 *Onychomys* has been studied in two types of colonies which differ in terms of the experience of the animals during the period when the fighting response was acquired. Both groups were trained to fight in a series of 8 trials under a one liter beaker over a 2-week period. However, the members of one colony were returned to their home cage between fighting trials, while members of the other were housed separately during this period and then rejoined to form a colony. Because of the marked behavioral differences which appeared in

these two types of groups, the first has been termed a "cooperative" and the second a "socially disorganized" colony.

The "cooperative" group lived together without internecine conflict as they had during the training period. Victims introduced to the colony in its 18" x 18" cage were promptly killed. The victim was hotly pursued by all members of the colony; several mice would share in the killing and would eat the carcass. While particular mice in the group were more aggressive than others and more often participated in the kill, all participated at times and no mouse was actively excluded. In contrast, when mice which had lived separately during fighting training were first returned together, a good deal of fighting occurred between members of the group. This reached destructive proportions. They suffered loss of ears and tails, 3 members of one colony were killed, and most lost weight. When a victim was introduced, members of the colony fought bitterly over which would make the kill. The dominant mouse was obliged to hold his competitors at bay or drive them into the nesting area before he could seize and kill the victim. Rapid kills occurred only when there was a markedly dominant mouse capable of achieving this feat. However, this dominant role could be maintained for only short periods and shifted from one mouse to another. After a kill had occurred, a period of 10 or 15 minutes of excited behavior would follow during which the *Onychomys* would attack one another. Accordingly, frequent introduction of victims intensified self-destructive aggression within the group.

At times when no clear-cut dominance was present, killing effectiveness was much impaired as the members expended their efforts sparring with one another. Under these conditions, some of the "victims" survived and established separate nesting areas where they coexisted precariously for many months. Other mice could be added to such coexisting colonies and might or might not be killed, depending upon the dominance situation at the time. Although the new arrival might be killed, previous survivors to whom colony members had become habituated would not be fatally attacked. It should be emphasized, however,

that this type of coexistence is considerably different than that which can be established with individual or group *Onychomys* which had had no killing experience. Under these conditions, the alien mice establish *separate* nesting areas and spend much of their time in hiding since they are subject to abortive attacks when they go too close to the *Onychomys*.

The above characteristics of the cooperative and socially disorganized colonies persisted without change for 6 months. The former remained a highly effective killing group even when victims were offered at intervals as long as 2 weeks. In contrast, disorganization and internecine conflict of the latter were perpetuated by periodic introductions of victims. It has already been pointed out that this procedure can lead to destruction of the colonies if repeated frequently.

The alternative form of the disorganized colony is one in which precarious coexistence with some victims is admixed with destruction of others and reactivation of conflict among the *Onychomys*. It is interesting that the survivors of self-destructive colonies are the less aggressive animals. It is true that these animals may have been subjected to repeated defeat in colony life. However, subsequent studies of their fighting in individual trials under conditions which should reinforce this behavior indicate that like the meek who will inherit the earth, they owe their survival to being less aggressive and thereby avoiding fatal encounters.

SUMMARY

A series of studies which illustrate the value of *Onychomys leucogaster* as a laboratory animal for study of aggression have been reviewed. The aggressive behavior of this animal follows a highly predictable pattern and can be readily quantified. Experimental conditions can be devised whereby it is possible to study factors which influence the first expression of this genetically determined behavioral trait as well as factors which reinforce or inhibit it once it has become established as a response.

Chlorpromazine was found to have an interesting effect upon the aggressive behavior of *Onychomys*. Medication with this

drug in dosage ranges which did not impair fighting ability because of motor toxicity markedly increased the reinforcing value of a fighting experience. A possible interpretation is that the affective state of an animal at the time of a behavioral response, in this instance an aggressive one, alters the effectiveness of the behavior in terms of reinforcement. Chlorpromazine presumably reduces the level of "anxiety" or fear associated with aggression.

Onychomys may also be conveniently employed to study aggressive behavior in social groups. Methods have been described whereby novice, non-fighting colonies of mice may be selectively converted into groups which coexist peacefully with other species, which cooperatively direct aggression toward aliens or which become socially disorganized and suffer from internecine conflict which results in the death of colony members as well as an impaired effectiveness in destroying alien animals.

CONCLUSIONS

This work, as well as that of others, enables one to draw a number of general conclusions about the aggressive behavior of vertebrate animals.

1. Aggression is a behavioral response pattern elicited by particular stimulus conditions. This response is in part genetically determined and is more readily elicited in some animal species than others. The adequacy of an animal's physical equipment for fighting, in comparison with that of its enemies, will, of course, determine how successful it will be in responding aggressively.

2. However, even animals well equipped for successful attack and genetically predisposed to aggression need never display aggressive behavior. It can remain latent unless elicited by particular environmental conditions and experiences. Moreover, even if aggressive responses become developed, the animal can alter its behavior to find a non-aggressive solution.

3. In other words, aggression is strongly influenced by learning. The experience of success in fighting reinforces aggression while absence of fighting or recurrent defeat decreases motivation to fight and the likelihood of future aggression.

4. The stimuli which elicit aggression arise

externally and represent environmental threats to the security of the animal. These stimuli include infliction of pain and situations which generate anxiety or fear. An aggressive response, if successful, restores emotional equilibrium; the threatening object is driven from the field of interaction or reduced in stimulus value through death.

5. In contrast with ingestive or sexual behavior, there is no evidence to support the view that there is any instinctive or physiological need for aggression. It is not an instinct or even a drive in the usual sense of these terms. It is not something which is quantitatively reduced by being expressed or acted out.

6. The structure of animal societies is such as to limit destructive levels of aggression. During infancy, the animal passes through a period of not fighting or of repeated defeat by more mature members of the group. This phase of "primary socialization" is followed in adulthood by various forms of dominance hierarchies. These result in an overall decrease in fighting. After the initial conflicts, which are practically never lethal but are required to establish the dominance order, the relationships between individuals stabilize on peaceful terms. Occasional threats by more dominant animals are reacted to with submission or avoidance by those lower in the hierarchy.

7. The phenomenon of territoriality, the system whereby animals distribute living space and food supplies and stabilize the level of stimulus contacts with other animals, is also of crucial importance in reducing aggressive behavior. On the other hand, violation of habitual territoriality can precipitate aggression.

8. A group of animals disorganized in

terms of either social or geographic factors is liable to develop a higher incidence of destructive, aggressive behavior.

9. Human aggressive behavior in our society more often appears as verbal attacks or threatening attitudes than physical violence. However, it is elicited by external threats to security or self-esteem and, if successful, serves to drive the threatening person away or figuratively to cut him down to size through verbal defeat or humiliation. The human animal becomes more aggressive when aggression is successful.

The degree to which these conclusions affect thinking about aggression will depend upon acceptance of the value of research in comparative behavior. A reasonable point of view for the psychiatrist is to recognize that there are obvious differences between the behavior and behavioral development of man and any other animal with which he might be compared and that naive analogies are hazardous, and yet accept the fact that there are critical similarities which can be so analyzed as to expand the scientific basis of psychiatry. This is no real reason that research on animals, correctly conceptualized, should not be as valuable to psychiatry as it has been to other life sciences.

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BIOCHEMISTRY, GENETICS, AND THE NATURE-NURTURE PROBLEM¹

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In a recent symposium on concepts in biology Spuhler said, "You hear very little now, outside of textbooks, about the heredity-environment controversy; the working people do not worry about this much anymore" (1). Psychologists arrived at a similar attitude 20 years ago. During the 1930's a large number of psychologists had been experimentally trying to parcel out the influence of heredity and environment in intelligence and other behavioral traits. Their results turned out to be equivocal; and this made most workers feel that research in this area was inevitably dogged by uncontrollable errors, statistical difficulties and questionable controls (2). Anderson, in summarizing the data, suggested that nature-nurture was an unproductive area of research and advised psychologists to turn away from it, advice which most took.

In the intervening years, only a few papers have suggested its reconsideration. In these the trend has been to point out our need to conceptualize the heredity-environment problem differently, in ways that are more in line with some of the present theoretical formulations of biology, for example. If we followed these formulations, the question would no longer be simply how much heredity and how much environment, but rather the question would turn to their relevant contribution on each of the various levels or strata in terms of which the organism is conceived (3). Some psychologists (4) have suggested that perhaps behavioral data can contribute something to the mode or the mechanisms by which heredity and environment interact, for the fact of interaction is generally accepted, albeit more out of a

feeling of helplessness at the complexity of the heredity-environment relationship than out of any real knowledge of the nature of the interplay.

Today some of the new experimental work in the biological sciences—embryology, genetics, biochemistry—is providing data about the nature-nurture factors and their interaction on the molecular level which elucidates the problem as it has been posed in regard to behavior. In the light of the new information, the assumptions generally held by psychologists about heredity turn out to be outdated, and even incorrect; and when the biological data about environment are considered along with the new findings in the behavioral sciences themselves even the conceptions about the nurture side demand revision. We had set out, in preparing this paper, to summarize the experimental data that we felt were beginning to detail the developmental processes, and that were already casting the heredity-environment issues in new light. However, this main intent turned out to have an intellectual by-product which began to interest us very much. Particularly as we reviewed the nature of the interaction between the nature-nurture factors, we became aware that many convergences and possible identities existed between phenomena and process on the biological level, and these on the psychological. In fact these turned up so regularly in the aspects we studied that we began to consider whether one model which had proved so useful on the molecular stratum could not be profitably transposed to the molar. We have taken the liberty of presenting our speculations about this at the end of this paper.

First a look at the new and enhanced concept of the heredity mechanisms to which biological scientists are directing our attention: until recently psychologists have been prone to consider biological or constitutional factors as constants, establishing the limits or boundaries of behavior, but reflecting none of its variance or uniqueness,

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They have looked to environmental contacts for providing the bulk of the organism's information content. Freud, for example, saw the infant as the passive recipient of stimuli from the outside world who learned his characteristic modes of thinking and reacting only when he began to take stock of the environment and perceived it through the processes of incorporation(5). Hebb has drawn attention to the same tendency among other psychological schools(6) to conceptualize motivation and drive in ways that are out of line with current physiological data. Elsasser suggests that this viewpoint stems from the strong influence of Darwinian notions on our scientific thinking(7). He, by contrast, feels that the bulk of the individual's information content is endogenous; and support for his position comes from the new genetic data which show that the hereditary mechanism itself can account for—at least has the potentiality for accounting for—all the vast differences that we see expressed in behavior(8). Biologists have now been able to show decisively that man has 23 pairs of chromosomes and they have been able, mathematically, to work out the possible combinations of chromosomes that can be transmitted by the parents to the child(9). It appears that the possibility for hereditary likenesses among children—even in the same family—is very small. The likelihood for 2 non-identical siblings in one family to have exactly the same genetic characteristics is only one chance in 64 trillion; the probability that two unrelated individuals will share the same genotype turns out to be effectively zero(10). While identical twins have the same genotype by definition, in fraternal or siblings there is still no question that the possible genic combinations make, as some geneticists have said, this inheritance game the "greatest lottery of all."

Moreover, we have thought until recently that some variability in heredity resided in discrepancies in the number of genic components transmitted from parent to child. Recent experimental work has shown that there are certain pathological disturbances which are produced by too many or too few chromosomes. Mongolism is one such disorder, the result of one extra autosomal chromosome. Klinefelter's and Turner's dis-

eases which result in sexual aberration in boys and girls are the results of one extra sex chromosome and one too few sex chromosomes respectively—and Tarjan and his group at Pacific State Hospital in California are finding that mongolism and Klinefelter's and Turner's diseases may actually be related to each other(11).

However, more pertinent a factor in normal and abnormal development is the composition of genic patterning, the sequential arrangement of the genetic components, and this turns out to be a highly intricate process, which is mosaic-like in its potential for variability. This has been most clearly elucidated in biochemical genetics which is concerned with genetically-determined enzymes and thereby with the control of certain aspects of metabolic reactions. The "one gene: one enzyme" hypothesis, that each gene is a coded template by means of which one specific enzyme (more generally, protein) is synthesized, was elaborated some time ago. This formulation proved to be a first wedge into the understanding of the mechanisms of certain intraorganismic functions, but this has been shown to be only part of the story. Subsequent investigation with specific metabolic systems has shown that many reactions are not exclusively determined by the presence or the absence of the appropriate enzymes(12).

Few geneticists today uphold the hypothesis of the autonomous gene. Mendel originally postulated the notion of dominance as a principle determining whether or not a trait would be manifest in the phenotype of an organism, but techniques were not available to demonstrate the actual mechanism. Technological advance has resulted not only in a general investigation of this phenomenon, but in evidence indicating a host of other intra-genetic relationships: suppressor genes and modifiers, which act as intensifiers, diluters, inhibitors; genes which exert their influences at early stages of development while the presence or identification of others can be recognized only when the organism reaches maturity; gene changes which may result in more than one observable change in the phenotype. For psychologists, it is particularly interesting to note that what changes are observed in this latter phenomenon—which is called pleiotro-

phy—turns out to depend on the knowledge of the observer and the intensity with which the search was pursued (13) !

The now well known "inborn errors of metabolism" were the first inroads into the large area of pathological disturbance which we now accept as genetically determined (14). But with their exploration has come a host of syndromes which seem to be playing into a myriad of disorders in which classification of neither syndrome nor source is simple (15). Medical genetics has been able to elaborate many disturbances which are now recognized as genetically bound. As metabolic pathways are systematically mapped, their intricacies and circuitries become apparent, and the possibilities for distortion of function and resultant pathology seem to multiply with the complexities of the intermediary processes. In studying mutant individuals with hemophilia, for example, it has been shown that at least 9 gene-controlled substances are required in the blood-clotting mechanism, and that each of the trace proteins involved may become dysfunctional through mutation (16).

Furthermore, medical genetics has shown that one cannot tell from the manifest behavior what has been the cause of the disturbance. In one individual an environmentally produced agent can lead to pathology ; while in another, an equivalent syndrome can be caused by genetically induced substances. Hemolytic anemia, for example, can be induced by certain drugs which makes it look environmentally determined but yet it is a genetically bound disorder. To further complicate the picture, the overt disease picture may give no clues as to its genesis.

The wide range of individual differences found in this work has alerted biochemists to the biochemical differences among individuals. We have long been familiar with inter-individual physiological and anatomical differences, but until now attention has not been turned to how these differences in turn affect function, what intra-systemic differences exist, and how these make their appearance. Williams, in a systematic compilation of incidences of biochemical individuality, has shown, as one example, that the urinary amino acid profiles of individuals are considerably different (17). Interestingly

enough, identical twins show patterns much more similar than do fraternal twins and siblings.

The recognition that one form of mental deficiency could be a concomitant of the inability to convert one substance to another to form the proper metabolic product in the now well-known phenylpyruvic oligophrenia disorder was an early encouragement to look for mental disturbances in genetic metabolic function. The subsequent search showed that this was only one of many ways in which interference with the necessary enzyme products can occur. Biochemists have found also partial lacks in enzymes ; or overproduction of enzymes ; or that metabolites are shunted off in such ways that they do not quite do their proper duties at the right time or at the right place. As the number of physical and mental disorders that can be reduced to inborn metabolic errors is steadily increasing, investigations are developing increasingly sophisticated models of intra-organismic function, and while our conceptual framework permits us to speculate that phenomena which exist side by side are probably highly correlated with each other, there are many more phenomena which are still extremely diffuse and vague, and as yet indefinable.

As the genetic factors do not operate in a vacuum but in an environment, attention has simultaneously been drawn to nature of the host, its participation in the intra-organism processes, and in the resultant behavior. Here, researchers have been confronted with an active factor or set of factors, which condition not only what is genetically determined, but often whether a genetic characteristic will make its appearance, and when. The biological studies make it quite evident that environment can no longer be defined as something outside the organism which affects or becomes part of the organism by internalization; environment must include intra-organismic factors as well, for the nature-nurture interaction is so meshed and interdependent even on the prenatal level that it becomes impossible to determine what is heredity and what is environment. Study of prenatal development has shown that development is a long process of continuous changes, starting with a given genetic array acting in a given en-

vironment. The first interaction product then constitutes the background (or the environment) for the next step of interaction with the environment. In the case of a given cell, this includes the interaction product of other cells, and in this manner all future reactions then are codetermined by all preceding steps and hence also by genetic endowment. Thus, at whatever point one arrests the sequential reactions for study, one can no longer—except arbitrarily—point to certain factors as genetic and others as environmental. As Weiss has said, there is no sharp dichotomy—even prenatally—between geneticists and environmentalists (18).

With the increasing knowledge of what goes on inside the organism, biologists have come to recognize the importance of the dimensions of time and space for even cellular phenomena. In the study of different metabolic needs of different cells, they have recognized that there are certain periods of sensitivity in cellular reactions—times at which things happen or interactions take place (19). Thus, even if all the structural components necessary for certain reactions to take place are in order, it is conceivable that these reactions just may not progress at the rate necessary to allow for a subsequent step to be instituted or systematically meshed with the first—or it is possible that certain reactions are physically separated by even so little as a fraction of a micron and that this may be enough to modify seriously a necessary and sequential relationship. Such dimensions are extremely significant in the elaborate system of regulatory relationships that exist in many metabolic processes. Feed-back mechanisms, as in the case of hormonal regulation of pituitary response to stress, are well known. It has been found, additionally, that in nervous tissue a chemical substance apparently may induce that enzyme which it subsequently needs for its proper action in transmitting electrical impulses across the synapse (20). Acetylcholine, for example, functions as a chemical mediator. Once it has so operated, however, it has to be destroyed (hydrolyzed) so that the proper termination of the membrane depolarization can take place. Acetylcholine has now been suggested as the embryonic determinant for the elaboration of acetyl-

cholinesterase, the enzyme which hydrolyzes it. Therefore, one sees here not only a built-in feed-back system which permits proper functioning, but also a mechanism which appears to demand a more complex interpretation than simple feed-back.

From the biologists we are also getting a picture of the kind of differential growth processes that are found prenatally. These are similar, we think, to the different capacities of the organism that have different maturational rates on the behavioral level. While in tissue growth there are presumably some metabolic requirements that are held in common for all tissues, the prenatal group processes do proceed differentially in certain tissues and cells, so that different tissues develop with different metabolic needs (19). Some growth agents seem to effect only specific partial processes; others have a generalized effect. Some agents effect certain growth processes only at times when certain metabolic needs can be interfered with and these same agents will be ineffective at other times. Thus, the "sensitivity periods" may be also described as times when the likelihood of throwing processes out of gear seems to be much more probable. We learn, too, that different tissues progressively develop different metabolic needs, which permits us to elaborate the notion of differential growth processes on the cellular level.

These "sensitivity periods" of the biologists are particularly interesting for they may be counterparts for the "critical periods" in development with which psychologists and ethologists are now becoming increasingly absorbed. Psychologists have found that there are specific times in ontogeny, or specific states, during which certain types of behavior normally first appear. If these times pass without the experiences having taken place, changes, and sometimes lags, in development occur which are never recoverable even though the "right" experiences are presented later. Lorenz's work on imprinting (21), and Thorpe's work (22) on bird songs have independently pointed to the importance of specific times for the occurrence of some kinds of species specific behavior which subsequently becomes indelibly stamped as part of the psychological armamentarium of the animal. Once the

time for experiencing this behavior has passed, its learning subsequently never takes place.

It should be noted, however, that biochemical and biological maturation time may not be synonymous with chronological time, as one of us (S.E., 23) and others have pointed out. S. Eiduson and E. Geller and their colleagues have been working with new-born chicks to see how various biochemicals and biochemical systems develop in the new-born chick brain. They have found that chicks differ with respect to the times at which certain biochemical substances make their appearance in the brain (unpublished data). Also, Karki, Kuntzman, and Brodie(23) have found that new-born rats have low levels of brain noradrenaline and serotonin. In 2 weeks time the levels of these substances have reached 40% and 70% respectively of normal. In about 7 weeks after birth, the values are those of the mature animals. However, different chicks and different rats of the same age differ with respect to the concentrations of these substances in the brain. Therefore, if one were interested in those aspects of brain function which involved noradrenaline and/or serotonin, it would be erroneous to assume that chicks and rats of the same chronological age were all comparable with respect to noradrenaline and serotonin levels. Chronological age and biochemical or biological age may actually be different so that it might be much more nearly correct, in comparing the chicks and rats, to group those that had similar concentrations of these amines, rather than those that were the same number of days old.

Considerable behavioral work on very early learning has emerged as scientists have given up their long indulgence in "instinctive behavior," which seems to have cloaked certain early learned behaviors which were considered innate since they seemed to be species specific(24). When this "instinctive behavior" has been exposed to study, results have shown that even in those areas of behavior where the effective external influence may be practically nil, and where the behavior seems essentially unmodified by experience or unresponsive to environmental manifestation, the way that seemingly innate behavior is expressed

or the conditions under which it is expressed depends upon experience(25). On whom the animal imprints, for example, is determined in some species by the environment, even if the fact of imprinting is not. The crucial importance of just this "environmental condition," or the person or thing imprinted, becomes evident as we see that this, and not the fact of imprinting by itself, determines in some species the character of adult sexual behavior in later life (21). Portielje, the curator at the Amsterdam Zoo, a trained zoologist, raised and had a male South American bittern imprinted to him. The bittern was subsequently placed in a cage which was covered very carefully. A female bittern put in the cage was his constant and only companion. Although at first the male would have nothing to do with the female, he finally accepted her and for two years subsequently the pair lived together. They were not further exposed to any other animals or human beings, even being fed through the cage. The animals mated and hatched a number of broods together. Two years later the curator to whom the male bittern had been imprinted in infancy entered the cage and the male bittern saw him for the first time in these two years. When the keeper entered the cage the female bittern happened to be sitting on a nest of eggs, but as soon as the male bittern saw the curator he chased the female off the nest and proceeded to try to woo the curator and to inveigle him onto sitting on the nest of eggs. He showed all of the usual nest relief and social behavior toward the curator. Needless to say, that brood of eggs was never hatched(26)! This example illustrates that a behavior like imprinting that is thought to be genetically determined is very much dependent on the sequential development of the organism for the character of its expression. However, it illustrates as well that whether a genetically-bound behavior is expressed at all is similarly dependent on the experience to which the organism is exposed after birth. The absence of a necessary stimulus which serves as a releasing mechanism may make it appear as if the behavioral trait were never transmitted genetically at all; or the absence of a later releasing stimulus may make what

appeared to be an inevitably formative experience have no significance in adult life.

The cloak of ambiguity which "instinct" had thrown around early learning has had the further effect of drawing attention away from such factors as intra-uterine environmental conditions which influenced development. However, we today are becoming increasingly cognizant of the dependence of the phenotype on certain environmental conditions in the fetus such as nutrition and temperature. Ephrussi and Herold have shown that the phenotype expression of drosophilia is temperature sensitive: W^{b1} flies have brown eyes at 30° and red-purple at 17° (27). Goldschmidt produced many phenocopies in wild type with temperature shocks (28). Thus, it is impossible to regard all intra-organismic phenomenon as genetically determined, and therefore not susceptible to environmental influence. This position has received support, too, from the recent attempts to show the effect of environmental influence during the gestational period. Ginsberg and Hovda transferred fertilized ova from the female of a strain of mice, inbred for susceptibility to audiogenic seizure, to the uterus of a female of a seizure resistant strain, and found that the resulting young showed an intermediate susceptibility (29). Thompson and Hochman changed the intra-uterine environment and found differences in the emotionality of rats which they speculated might be due to possible changes in fetal material in the blood stream (30). In a water maze learning situation, Thompson and Sontag showed that offspring of parent rats who were subjected to seizure were slowed in their response to this same task (31).

As the experimental data on the nurture side of the paradigm continue to support the biological work showing the early and inevitable interaction of nature and nurture, the definition of what is learned becomes more blurred than it once seemed. Previously, psychologists were very ready to label as learned those facets of behavior which were separate from central nervous system growth, responsive to experience and manipulation to change or extinction, characteristics which were distinguished by their variability and mutability, in contrast to hereditary mechanism which was more

fixed and constant. This whole notion has been shown to be inappropriate in recent years. Sperry, the psychobiologist, tells us that in individual development the central nervous system must be sufficiently complex for coordinating any level of behavior when behavior begins, and this inevitably involves learning (32). Thus, learning is indistinguishable from CNS growth.

The definition of what is learned has also become less clear-cut as we have become aware of how much learning takes place without our being conscious of it. Experimental work, in discrimination and perception in both animal and human subjects, has suggested that the absence of normal amount of stimulation during developmental periods may result in an inability to respond effectively to sensory and perceptual cues when these cues become available. While much of the perceptual data is derived from studies of the visual modality, evidence demonstrates similar results with other sensory modes. The work on infant chimpanzees done by Nissen, Chow, and Semmes is in point (33): for when the chimp's normal tactual experiences on his own body and his environment were interrupted by placing mailing tubes over his hands and feet, no failure in development of primary sensory equipment of the skin was noted, but subsequently somesthetic learning and localization of the tactual stimuli were defective. This implied that more or less random tactual experience is necessary for the normal development of somesthetic perception. The experiments on pecking behavior response in chicks raised in darkness with consequent deficiencies in motor and sensory development is similarly vivid, in that such chicks never learned to peck and so were unable to feed themselves in times of starvation although they stood in the midst of plenty (34). The deprived and enriched environment studies on dogs and monkeys not only show how much facilitation is affected by conditions of early learning, but also point to the crucial period in development—the age—at which the deprivation or enrichment takes place (35). With human subjects one gets additional evidence that seemingly irrelevant and peripheral stimuli are taken in as part of the perceptual process and become part of

learning even though no direct learning experience seems to have promoted this. In the Poetzl experiments, for example, some parts of exposed stimuli were so unconsciously perceived that they were not subject to direct recall, even though it was apparent from dreams and subsequent conscious behavior that they had been part of the input (36). In summarizing the experimental work on effects of early experience upon the behavior of animals, Beach and Jaynes point out that with all its equivocality and undetermined reliability, the evidence suggests that habits formed in early life are persistent in adult behavior, that later perceptual capacities seem to be structured by early experiences, and that there seem to be certain stages in ontogeny during which certain types of behavior normally are molded and shaped for life (24).

Many years ago psychologists became aware that certain reactions like fear and rage, though admittedly unlearned, could not occur until the maturational development of the animal or infant had proceeded to a point where something in the environment could produce the innate response. Hebb has given the example of the infant chimp, who, though fearful of first strangers, only developed such fears after he had reached an age where he was able to recognize his usual caretakers (usually around 4 months) (37). Even the chimp reared in darkness to an age where fear is normally at its peak will not be disturbed by the first sight of a stranger until he has had the opportunity to learn to differentiate those who care for him daily.

Piaget's and Buhler's studies on the development of human thinking similarly have shown the importance of understanding the maturation of universal modes of thought for interpreting why a child handles experiences differently at different times in his early life (38). The child, a few months old, will not be distressed when an object is removed from view; he behaves as if the toy ceased to exist. But a few months later he actively searches for the toy and tries to remove the obstacle which has taken it out of view. The child's response and his possible range of behaviors depends on his developmental level, and on the corresponding "mental structures" available to him. The

child changes his behavior when the environment demands change; and yet the maturational level of the inherent "operatory structures" determines the nature of the response which will be made. The parallel to tissue differentiation seems cogent; for, as Weiss has described, during maturation, tissue increasingly differentiates and metabolic needs are correspondingly altered; but during this innately determined process, the nature of its differentiation is responsive to the local experience it meets, and to the environmental demands made on it (18).⁴

It becomes increasingly easy to draw such parallels with our extended knowledge—and increasingly provocative; and this has made us wonder if it would not be very profitable were such parallels systematically extended. We have been impressed that with new data, more and more convergencies appear. Pre- and post-natal growth processes seem to be analogous in many aspects; and also the nature of the interaction of genetic and environmental factors seems similar on both molecular and molar levels. Therefore, taking our clue from general systems theory, we wonder if formal identities do not actually exist between the biological molecular processes, and the behavioral (39). Rapaport's finding that there was comparability among diffusion of information (rumor) at the level of the social system, diffusion of matter or energy (infectious agents) in a biological system, and diffusion of neural impulses in an organ (the central nervous system) shows the value of transposing a hypothetical model from one systemic level to another (39).

We think that perhaps now we have the possibility of exploiting another model, that of biochemical genetics, for an exposition of the nature of the heredity-environment interaction on the behavioral strata. This would obviously be no simple job for psychology—for we would have to refine and recategorize some of our variables to make them suitable

⁴ While in this paper we have been primarily concerned with the local environmental changes and their effects on phenotypic expression of the genotype, there are as well many examples of extra-organismic (*i.e.*, psychological or sociological) alterations of genotypic expression. One such example is the effect of sensory deprivation on visual acuity.

for the kind of differentiation that such a re-study would involve. Yet one gets the feeling that the time—and perhaps the means—are now ripe, for we have evidence that the interlocked relationships of the nature-nurture factors is in itself important, and can be differentially broken down into distinguishable reaction patterns.

The biochemical genetic model has enabled the biologist to trace a number of pathways by which certain metabolic reactions proceed. Investigators can indicate what substances are given genetically and then show to some degree how certain sequences are dependent on environmental agents normally, where these agents impinge, how they facilitate reactions or interfere with them. Once pathologies are set in motion subsequent metabolic reactions can be studied and eventually whole enzyme systems are, or in the future will be, mapped.

We are suggesting that such a model offers the potential for doing a similar job in psychology. Psychology has always assumed that development is sequential and reflects both heredity and environment, but it has seldom considered that from the first post-natal moments, it is already looking at an interaction product with all behavior subsequent to birth representing simultaneously modification of this product and the emergence of a new interaction phenomenon. To all intents and purposes the psychologists have assumed that heredity and environment factors were like dependent and independent variables with one albeit affecting the other, but with the results of these interacting effects not being taken into account as the changed stage on which a second subsequent behavioral segment is acted out.

To apply the biochemical genetic model in psychology, we would have to start with systematic observations on early development, draw our variables from these observations, and begin to trace their evolution. Clinical data have information which could be abstracted about interferences, distortions and pathologies in post-natal growth processes—how they set in, the kinds of sequences that follow once an original abnormality or disturbance has resulted, and their subsequent development. Thus could

whole psychological reaction systems be tentatively mapped out. This seems to us to offer a possibility for plotting the ontogenetic sequences of psychological diseases—an important job that has long been overdue. The advantage of such a model for psychology is obvious; but additionally, if the convergencies between pre- and post-natal development continue to hold up, the psychological data based on post-natal observation and experimentation could conceivably offer to the biologist some clues about process in pre-natal development, and suggest to him some new avenues for research.

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RELIABILITY OF PSYCHIATRIC DIAGNOSES :

2. A STUDY OF CONSISTENCY OF CLINICAL JUDGMENTS AND RATINGS¹

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The psychiatric nomenclature as well as the process of psychiatric diagnosis in general has been "under fire" from many quarters. In a critical review of the systematic studies of the reliability of psychiatric diagnosis (3) it was pointed out that, while these studies consistently indicated a low level of interclinician agreement, they presented certain methodological problems which made the findings inconclusive. The author suggested an experimental framework within which systematic studies could be carried out to determine the effect of the relevant variables on diagnostic reliability.

The present study is the first of several investigations carried out within this methodological framework. For present purposes those variables which might influence the degree of interpsychiatrist agreement were controlled as far as possible. This required special attention to providing uniformity of the conditions of the investigation, for example, the nomenclature used by each psychiatrist, the minimum level of training and

experience of each psychiatrist, and the type of diagnostic procedures to be employed.

METHOD

Four experienced psychiatrists participated in interviewing the patients. The participating psychiatrists were all board certified in psychiatry and had important clinical or teaching positions. Psychiatrists A, B, and C had from 10 to 13 years of training and experience in psychiatry, while Psychiatrist D had 6 years in psychiatry; in addition, their experience was predominantly with outpatients while Psychiatrist D had experience chiefly with inpatients. The professional characteristics of each psychiatrist are summarized in Table 1.

Before engaging in the formal aspects of the investigation, the psychiatrists had several preliminary meetings during which they discussed the various diagnostic categories, ironed out semantic differences, and reached a consensus regarding the specific criteria for each of the nosological entities. The "Diagnostic and Statistical Manual of Mental Disorders" of the American Psychiatric Association (1) was used as the basis of classification. It was found that considerable amplification of some of the diagnostic descriptions contained in the manual was

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TABLE 1
Professional Characteristics of Participating Psychiatrists

CHARACTERISTIC	PSYCHIATRIST			
	A	B	C	D
Age	41	38	38	36
Years since graduation from medical school	11	14	14	13
Years experience in psychiatry	10	13	13	6
Academic rank	Asst. Prof.	Assoc.	Assoc.	Instr.
			Assoc.	Clin. Dir.
Clinical position	Consult. O.P.D.	Chief O.P.D.	Chief O.P.D.	Psychiat. Serv.
Board certified, psychiatry	Yes	Yes	Yes	Yes

necessary in order to minimize differences. After having reached agreement on the criteria to be used in making their clinical evaluations, the psychiatrists compiled a list of instructions to serve as a guide in diagnosis. They also agreed on a set of 22 indices to be used in assessing the depth of depression. (These are specified in another article(4).)

The psychiatrists were randomly paired so that each of the patients was seen by two different diagnosticians. The procedure was to have one psychiatrist interview the patient, and then after a resting period of a few minutes the other psychiatrist interviewed the patient. Each psychiatrist independently wrote out his diagnosis and rating of the depth of depression (none, mild, moderate, severe), and indicated the degree of certainty in making the clinical diagnosis (certain, fairly certain, uncertain). In the last 51 cases, the clinicians made a "differential diagnosis" consisting of a preferred diagnosis and an alternative diagnosis. After the second interview was complete, the pair of psychiatrists discussed the differences, if any, in diagnoses and assigned the reason or reasons for the lack of agreement.³

The patients included in this study were drawn randomly from new referrals to the psychiatric outpatient service of the Philadelphia General Hospital and the Hospital of the University of Pennsylvania. The patients were interviewed within a week after their initial administrative "screening." A total of 153 outpatients were examined. No

hospitalized patients were included in this series.

RESULTS

The percentage of agreements on specific diagnoses for each psychiatrist when paired with each other psychiatrist is summarized in Table 2.

The agreement rate was obtained by dividing the number of concordant diagnoses by the total number of diagnoses. The overall rate of agreement was 54%. The rate of concordance for the paired psychiatrists ranged from 33.3% to 61.4%, while the overall rate of concordance for the individual psychiatrists ranged from 45.3% to 59.5%.

It may be noted that the pairs to which Psychiatrist D was assigned had a consistently lower level of concordance than the other pairs. On the other hand, each psychiatrist, when paired with Psychiatrist A, showed a higher level of agreement than when paired with the other psychiatrists. An analysis was performed to determine whether there was any significant difference between the concordance rate for the individual psychiatrists. Psychiatrist A's level of agreement, exclusive of his pairing with D, was 60.6%; while Psychiatrist D's level of agreement, exclusive of his pairing with A, was 37.1%. The difference in percentages obtained by these two psychiatrists exclusive of their pairing with each other was significant at the .05 level.⁴ The differences among A, B, and C were not significant.

Another analysis was performed to de-

³ The results of the study of reasons for diagnostic disagreement will be reported separately (21).

⁴ In all analyses of the differences in the percentages, the standard error of the difference in the percentages was computed and compared with the obtained difference in percentages to determine the level of significance.

TABLE 2
Comparison of the Percentage Agreement on Specific Diagnoses
For Each Psychiatrist When Paired With Each of the Other Psychiatrists
(n=153)

PSYCHIATRIST	PSYCHIATRIST				OVERALL
	A	B	C	D	
A	—	61.4	59.9	57.1	59.5
B	61.4	—	57.5	45.4	54.8
C	59.9	57.5	—	33.3	50.2
D	57.1	45.4	33.3	—	45.3

termine whether the degree of agreement between the psychiatrists could be due to chance or was statistically significant. In order to compute the level of significance, it was necessary to establish first what the degree of agreement would be if chance alone operated. The rationale for the procedure employed to determine the expected agreement by chance was as follows: If each psychiatrist operated within a completely different conceptual framework, so that there was no common basis for selecting the nosological labels for a specific case, there would still be a certain percentage of their judgments which would coincide by chance. To determine the degree of chance agreement requires an estimate of the frequency which each psychiatrist would be likely to select the various diagnostic categories. Since it could be assumed on the basis of previous studies (15, 17), as well as in our own studies, that the diagnosticians would tend to exercise certain diagnostic preferences, it would be expected that, given a large randomly assigned group of patients, the proportions (base rates) for the various nosological categories would tend to follow the selective predilections of each psychiatrist. Once the proportions (base rates) for each psychiatrist were established, it would be possible to compute the percentage of diagnoses that would agree by chance alone. In order to obtain a more adequate estimate of the base rate for each psychiatrist, another sample of 205 cases was randomly assigned to the 4 diagnosticians* (each patient in this sample was seen by only one diagnostician). The base rate for each diagnostician was then obtained by computing the frequency distributions for the combined sample of 358 cases.

By the use of the base rates, it was possible to compute the frequency with which a given nosological category selected by one psychiatrist in a pair would be matched by the same diagnosis by the other psychiatrist under conditions of chance. The chance probability for a given nosological category was computed by multiplying the respective base rates for each category for each psychiatrist in the pair. Psychiatrist A, for example, made the diagnosis of schizophrenic reaction 20% of the time in the combined sample, while Psychiatrist B made this diagnosis 18.1%. The chance probability of their both making this diagnosis on the same cases is the product of these two proportions, or 3.6%. The actual number of cases in which they agreed on this diagnosis was 7 of 44 cases examined together, or approximately 16%. The total percentage agreement on all 44 cases which might be expected by chance was obtained by summing the expected percentage agreements for each nosological category. The observed and expected agreements for each pair of psychiatrists are summarized in Table 3. It is evident that the percentage of agreements is highly significant.

The comparison of the degree of agreement for each of the nosological categories is presented in Table 4. (Only categories which were selected at least 10 times are included in this table.) To determine the percentage agreement, the number of selections of the specific category which were concordant was divided by the total number of times that category was selected. It was found that the highest degree of agreement was obtained for the diagnosis of neurotic depressive reaction (63%), followed by anxiety reaction (55%), sociopathic disturbance

TABLE 3
Observed and Expected Percentage Agreement for Each Pair of Psychiatrists
(n=153)

PAIR	N	OBSERVED %	EXPECTED %	S.E.*	P
AB	44	61.4	18.0	5.2	<.001
AC	27	59.9	19.3	6.7	<.001
AD	14	57.1	15.1	9.3	<.001
BC	33	57.5	18.4	6.1	<.001
BD	11	45.4	15.7	10.6	<.01
CD	24	33.3	14.7	6.7	<.01

* S.E. = Standard Error of the Percentage.

TABLE 4
Comparison of Agreements and Disagreements for Six Nosological Categories

CATEGORY	N *	AGREEMENT	DISAGREEMENT	% AGREEMENT
Neurotic Depressive Reaction	92	58	34	63
Anxiety Reaction	58	32	26	55
Sociopathic Disturbance	11	6	5	54
Schizophrenic Reaction	60	32	28	53
Involitional Reaction	10	4	6	40
Personality Trait Disturbance	26	10	16	38

* N=Number of times each diagnostic category was selected by a psychiatrist. Since only those categories which were selected at least ten times are included, the diagnoses falling into the other categories are not represented in this table.

(54%), and schizophrenic reaction (53%).

A comparison was also made of the degree of agreement when only the major divisions (psychosis, neurosis, and character disorder) were used to classify the patients. It was found that for this analysis the rate of agreement was 70%.

Another comparison relevant to the problem of diagnostic agreement is the determination of the relationship of the degree of concordance to the degree of certainty (certain, fairly certain, or uncertain) in rendering this diagnosis. Table 5 shows that, when both diagnosticians in a pair indicated that they were certain of their diagnosis, they concurred in their judgments in 81% of the cases. There was a sharp drop in the level of agreement when either diagnostician indicated a lesser degree of certainty. Of the 4 cases which both diagnosticians labeled as "uncertain," there was agreement in only one instance. A comparison of the percentage agreement in the certain-certain category with the percentage agreement in all other categories combined revealed a significant difference ($p < .001$).

The question whether the diagnosticians' appraisals of specific cases may have been closer than indicated by the comparison of their primary diagnoses was explored by

analyzing the degree of concordance when their alternative diagnoses were taken into account.

The N in this analysis is only 51, since the procedure of making an alternate diagnosis was initiated in the latter portion of the study. It was found that, when concordance between a primary diagnosis and an alternate diagnosis or between two alternate diagnoses are given the same weight, the diagnoses were congruent in 43 of the 51 cases (82%). The types of agreement were as follows:

	<i>cases</i>
Primary Diagnosis with Primary Diagnosis :	25
Primary Diagnosis with Alternate Diagnosis :	12
Alternate Diagnosis with Alternate Diagnosis :	6
No agreement :	8
Total :	51

Another pertinent analysis is the comparison of the degree of agreement on the ratings of the depth of depression (D of D). One hundred and forty-eight cases were used in this analysis. It should be pointed out again that these ratings were

TABLE 5
Comparison of Degree of Certainty in Making Diagnoses with Percentage Agreement

	CERTAIN- CERTAIN	CERTAIN- FAIRLY CERT.	CERTAIN- UNCERTAIN	FAIRLY CERT.- FAIRLY CERT.	FAIRLY CERT.- UNCERTAIN	UNCERTAIN- UNCERTAIN
N	31	47	6	48	17	4
Agree	25	23	3	24	8	1
Percent	81	49	50	50	47	25

not simply estimates of the level of the patient's mood, but were based on quantitative judgments of the severity of 22 specific signs and symptoms characteristic of depression. The final rating of the D of D as none, mild, moderate, or severe was not simply a composite of the individual ratings but involved as well the clinician's judgment of the patient's behavior as a whole. It was found that in 87 cases (58.8%) the psychiatrists placed the patients in the same D of D category, and in 60 cases (40.5%) in adjacent categories. Thus, in 99.3% of the cases, the judgments were no more than one scale point apart.

DISCUSSION

In a previous review article(3), the data of 4 studies(2, 10, 19, 20) were reorganized to facilitate comparison and were found to range in agreement on specific diagnoses from 32% to 42%. The results of the present study indicate that, by using a more stringent experimental design, it is possible to obtain a higher proportion of agreement between diagnosticians than in the more loosely designed studies. The only other study of an *outpatient* population was that reported by Ash(2), which showed a substantially lower degree of agreement on specific diagnoses than the present investigation (32% as compared with 54%). The various studies of *hospitalized* cases are not strictly comparable to the present study because, for the most part, they included "organic" cases, had a higher proportion of psychotics, and included more severely ill patients. In addition, the other studies tended to use broader nosological categories and permitted the second diagnostician in the pair to know the diagnosis made by the first, factors which would tend to inflate agreement. The samples of hospitalized patients which are most similar to our outpatient series in terms of severity of illness and the relative proportions of the diagnostic groupings are the hospitalized naval patients studied by Hunt, *et al.*(10), and Wallinga(20). Their samples are more congruent with an outpatient population since they included a higher proportion of individuals who were hospitalized because of the exigencies of the service and who would ordinarily have been evaluated on an am-

bulatory basis. A cross-study comparison of the concordance rates for the specific diagnoses reveals the following: present study, 54% Schmidt and Fonda, 42%(19); Wallinga, 41%(20); Ash, 32%(2); Hunt, Wittson, and Hunt, 32%(10). These comparisons indicate that the previous studies, while perhaps reflecting the concordance rate in actual practice at various institutions, underestimate the degree of agreement obtainable under more optimal conditions.

Granted that the proportion of agreements can be improved by refining the experimental design, there is still a serious question as to whether the rate of agreement for the refined diagnostic categories is high enough for the purposes of research and treatment. Furthermore, although the degree of agreement was found to be statistically greater than could be expected from random pairing of diagnoses rendered independently by each of the psychiatrists according to his own system of preferences or biases, this does not in itself indicate that the reliability is high enough for research and treatment purposes. It seems apparent that the rate of agreement of 54% for the refined diagnostic categories is not adequate for research. Moreover, it is questionable whether the rate of 70% for the major divisions (neurosis, psychosis, and character disorder) would be considered adequate for research.

An alternative approach for identifying criterion groups is suggested by the results of the comparisons of agreement on the dimension of depth of depression. It was found that, in practically all the cases, the paired ratings were either identical or were at adjacent points on the 4-point scale. By focusing on specific sign-and-symptom clusters and obtaining a measure of these dimensions irrespective of the nosological category, it is possible to divide the patient sample into high and low groups as regards the specific dimension, with confidence that patients at the opposite poles of the continuum (*i.e.*, more than one scale unit apart) would be reliably differentiated by diagnosticians. This technique is based on the "polydimensional" model(13) which does not require that individual syndromes be mutually exclusive, but assumes that more than one of the syndromes or dimen-

sions (e.g., depression, anxiety, paranoid tendencies) may be present in a given patient. This model allows for an estimate of the relative severity of these syndromes, and has served as the basis for a number of techniques which retain the traditional nosological categories but treat them as dimensions of personality (9, 14).

The present study also offers some information regarding the effect of individual differences on the degree of agreement. As shown in Table 2, Psychiatrist D not only had a significantly lower proportion of agreement than Psychiatrist A, but consistently showed a lower rate than the other psychiatrists. Several possibilities are suggested to explain his consistently lower proportion of agreement. One is that he exercised less consistency in his use of the diagnostic procedures and the application of the criteria for the selection of the proper nosological label; his diagnoses thus would show a lower degree of concurrence than would diagnoses rendered by psychiatrists who were more stable in this respect. The degree of consistency thus would be an index of the *reliability* of his diagnoses. Another possibility is that he was less "correct" in his diagnostic appraisals; that is, that his diagnoses had less *validity*. There is no indication as to which factor, lower reliability or lower validity, was responsible for the differences. Since Psychiatrist D had appreciably less experience in psychiatry than the other psychiatrists, as indicated in Table 1, the question could be raised as to whether differences in the degree of experience of the participating psychiatrists might be a factor in lowering the degree of agreement in this and in other studies.

The problem of why psychiatrists differ in their diagnostic judgments was approached in another study by the present authors (21). It was found that, in 37% of the cases of disagreement, inconsistencies or omissions in the interviewing procedure contributed to the lack of agreement. Additional evidence of individual differences is provided by Rosenzweig, *et al.* (18), in their study of the reliability of the mental status examination. They observed that there were no consistent differences among psychiatrists in rating the material elicited by one

of them during a specific interview; but that, when each psychiatrist conducted an interview, he differed from each of the others in the aspects of psychopathology which he elicited. The authors concluded that, while reliability was not significantly influenced by individual bias or by differing capacities to make observations, it was significantly influenced by the individual differences in interviewing techniques.

This evidence of the effects of differences in interviewing technique seems sufficient to warrant further systematic studies of the various methods involved in diagnosis and further attempts to improve and standardize current diagnostic procedures (5, 6). This position is supported by several authors (11, 12, 17) who have viewed with concern the tendency to neglect the concepts of nosology in teaching and practice and plead for increased attention to the orderly description and classification of the mental disorders. As pointed out by Norris (16), a declaration of no confidence in the psychiatric nomenclature can provide a ready justification for avoiding the disciplined investigation involved in making a diagnosis. In this connection, it may be predicted that, if the dissatisfaction with diagnosis increases and the emphasis continues to shift away from coherent observation, description, and classification, the diagnostic procedures may become progressively less reliable. On the other hand, there seems little question that an improvement in diagnostic procedures would advance research and through the expansion of knowledge would ultimately promote therapy.

SUMMARY AND CONCLUSIONS

1. An investigation of the reliability of psychiatric diagnoses was designed to minimize factors that would artificially lower or inflate the rate of concordance. A series of 153 patients were examined independently by paired psychiatrists and diagnoses were made independently according to the standard nomenclature. The degree of agreement (54%) on specific diagnoses was statistically significant ($p < .001$) and was higher than that obtained in other comparable studies.

2. In cases where both diagnosticians indicated they were certain of the diagnosis, the agreement rate (81%) was found to be

significantly higher than in the remaining cases.

3. When the diagnosticians gave both a preferred diagnosis and an alternative diagnosis, it was found that the rate of agreement between either diagnosis offered by one diagnostician and either diagnosis of the other was 82%. This suggested that the diagnosticians may have been closer in their appraisals than indicated by the scoring of only the preferred diagnoses.

4. An additional method of classification consisted of rating the patients on a 4-point scale along a single dimension, *viz.*, the depth of depression. It was found that, when they used this method, the diagnosticians agreed within one scale unit in 99% of the cases.

5. It was suggested that the present system of diagnosis could be improved by focusing greater attention on appropriate training in diagnostic skills, the identification of the defects in current interviewing techniques, and the development of more uniform clinical procedures.

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ABSTRACTS

A SEARCH FOR THE AFFECTIVE DETERMINANTS OF CHRONIC URTICARIA

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Standard operating procedures of psychiatric appraisal, in a multidisciplinary framework, were utilized in the investigation of 40 cases of chronic urticaria. Each patient was seen in 2 to 5 appraisal interviews by the psychiatrist and, in addition, 12 of them entered into psychotherapy with the effect of subjecting initial impressions to extended critical evaluation. Exhaustive physical and laboratory study of each patient by the allergist has failed to produce evidence of physical cause for the disorder. Social studies were conducted by the psychiatric social worker in one or more interviews—when possible a relative was also interviewed. Twenty-six of the patients were given a full battery of psychological tests.

Twenty-four of the patients are female, 16 are male; average age 33. Three females and 1 male are negro; 1 male is Chinese; the remainder are white. There is a marked tendency for the patients to occupy the extremes of ordinal position in their families—13 were the youngest and 14 were the oldest children in relatively large families.

A primary aim of this study was to compare the current cross-sectional view of the patient, while troubled with his chief complaint of hives, with a longitudinal view of his origins, the course of his life, and his characteristic personality defense patterns. Special attention was paid to the childhood milieu in an effort to evaluate the forms of the early and ongoing relationship with parents and siblings. Evaluation of the life setting in which chronic urticaria first occurred has brought out an explanation for

activation of the somatic process. In the search to identify and specify the affects pertinent to the urticarial reaction in these patients, many factors have been considered. The role of anxiety, hostility, guilt, shame, resentment, and depression has been estimated in each case. In a like fashion, evidences of sado-masochism, voyeurism-exhibitionism, and special skin erotism have been considered from the genetic and dynamic standpoints.

DISCUSSION

Estimation of the ego defenses of these patients made clear the effects and operation of activity, acting, or acting-out at various times in their lives. A pattern of failure of activity defenses in a setting of recapitulated childhood dependency conflict has characterized the requisite emotional climate for an episode of urticaria. Statistically, there is a very high incidence of alcoholism or obesity in the past histories of these patients. Descriptively, during the period of evaluation, these 40 patients were separable into 3 groups as far as ego functioning is concerned. One group was designated the "social normal" by virtue of general personality effectiveness and minimal overt anxiety. The second and largest subgroup was characterized by passive-dependency and the third by lessened but persistent acting-out and impulsiveness. No matter how masked by defenses, a common sort of vulnerability was found among them and certain basic conflicts were common to all. Urticaria was found to develop from a frustrating reality situation in which previous personality defenses such as acting-out, compulsivity, sheer physical work, or mere physical activity were no longer appropriate to bind underlying conflict. There was no exception to the persistence of essential and excessive dependent needs

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in these 40 patients.

The body of this paper is devoted to the exposition, centered on the clinical material, of the relation of unconscious conflict to the production of the physical symptom. Characteristically, original intra-family dynamics were recapitulated in a later life situation in which the failure of previously successful personality defenses has resulted in the formation of this particular physical disorder. Parental duplicity was found crucial to the origin of acting-out among these patients. Copious clinical material provided information of a cause and effect nature at a number of levels and theoretical constructions have remained centered upon the patients under consideration. A number of articles in the literature pertinent to the study of urticaria were reviewed and those bearing on the content or conclusions have been included in the bibliography.

SUMMARY AND THEORETICAL CONSIDERATION

Chronic urticaria may be viewed as a regressive, biological attempt to solve an unconscious conflict when more complex psychological modes have become unavailable. As a physiological expression of fear, chronic, recurrent urticaria constitutes an archaic discharge function, an atavistic reaction, that echoes primitive animal defensive reactions to danger. A regressive phenomenon, occurring in a transient setting of the inhibition of defenses adequate to master anxiety, it is postulated that the affective force stems from intense abandonment fear, and infantile companion rage. Solution to the essential abandonment fear and impending panic (threat of annihilation) is found by the displacement of the primary affect to the fear of being hurt (castration anxiety). Thus, essential abandonment fear is avoided by way of a conversion reaction in which a substituted lesser fear is in turn solved by the wheal formation as a physical expression of injury. The wish to hurt and the counterwish to be hurt finds satisfaction in the physical evidence of punishment. The markedly phallic personality organization of the women, together with the decidedly phobic characteristics of the patients as a group, have made the above formulation tenable. This chain of events, with the phantasy of catastrophe

at its beginning, has accomplished a progressive and relatively economical degradation of an initial threat by the formulation of a satisfactory symbolic solution.

CONCLUSIONS

1. Medical study of 40 patients failed to produce evidence of an allergic mechanism or a causative physical agent in the etiology of their chronic urticaria.
2. Chronic urticaria may be viewed as a regressive, physiological expression of unconscious conflict when previously operating mechanisms of defense have become inadequate to bind strong affect. Anxiety is the dominant affect in this disorder.
3. Regression from a pre-dominant action level of tension discharge to an organ level of expression is dynamically crucial to the formation of chronic urticaria.
4. The prime affective force in chronic urticaria stems from a revival of abandonment fear and companion rage, called up in a state of helplessness engendered by a particular set of life circumstances.
5. The conversion process offers the most satisfactory explanation for the physical reaction of chronic urticaria among the patients in this series.

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PROLONGED HIGH DOSAGE MEDICATION IN CHRONIC SCHIZOPHRENIA

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While there appears to be general agreement that the ataractic drugs, while not curative, are useful, there are still segments of psychiatric thinking which question even this usefulness, suggesting that their value is no more than that of a placebo.

It is our belief that one important source of the confusion and the conflicting reports about the results or the lack of results of ataractic medication, especially in chronic cases, is the extreme variability of dosage and duration of treatment.

Low dosages and shortness of treatment in such a long-term abnormality as schizophrenia cannot but yield negative results, and to expect otherwise is to imply an etiological infectious process or some metabolic deficiency which no one, as yet, has proved.

This assumption is implied in the widespread practice of stopping medication or reducing it to a minimum as soon as the patient's behaviour is stabilized.

Chronic cases are notoriously refractory to remissions as their length of chronicity increases; this has been proved by a series of studies, as the one of the Warren State Hospital in collaboration with the Public Health Service, by the studies of Goldman, Kline, the team of Tuteur, Stiller, *et al.*, even with the use of ataractic drugs.

It would then appear that, in view of such a pessimistic prognosis for chronic schizophrenia, any drug or any method of treatment capable of improving such prognostic outlook could be accepted as proof of the intrinsic worth of the drug or method of treatment. We believe that our report shows such improvement and that its results can be duplicated, provided that dosage and duration of treatment are closely followed.

We consider of paramount importance in the treatment of chronic schizophrenia the following factors:

1. *Adequate high dosage.* High dosages

have been used by many investigators, but with the purpose of controlling acting out and seldom with the long-term therapeutic purpose. Active symptoms can reappear prolonging unduly any treatment; therefore, after the first phase of high dosage to remove symptoms, we keep our patients on high dosages with the purpose of consolidating whatever improvement has occurred. This first stage, lasting about 5 or 6 months, usually consists of medication with 400 mg. of chlorpromazine (Thorazine) q.i.d. to which we add an anti-parkinsonian drug and, whenever depressive features are prominent, imipramine (Tofranil) or tranylcypromine (Parnate). Of late we have resorted to chlorpromazine medication only, sometimes up to 600 mg. q.i.d., whenever acting out is prominent, preferring in other cases where suppression of symptoms is not so important the milder drug thioridazine (Mellaril).

The second stage (therapeutic) is essential to consolidate gains and effects those changes which usually lead to social or full remission. This second stage consists of a change of medication from chlorpromazine to thioridazine or in special cases to trifluoperazine (Stelazine), but reduced by one fourth from the original high dosage, 300 mg. q.i.d. in the case of thioridazine or chlorpromazine and 15 mg. q.i.d. in the case of trifluoperazine. This second stage lasts from a minimum of 6 months in the less chronic (2-3 years of continued hospitalization) to 1 year or even 1½ years for the more chronic and refractory ones. If after 1½ years of this second stage no further improvement occurs we conclude that the case is a decompensated one, to use a fitting medical term, and the prognosis is poor. At the end of this second stage we lower dosage by another fourth; this we consider to be the best maintenance dosage, only in less chronic cases going to dosage of 100 mg. q.i.d. of thioridazine, chlorpromazine or 10 mg. b.i.d. of trifluoperazine.

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2. *Consistency of dosage.* Fluctuations in dosages, and worse, even short interruptions, we consider to be important factors leading to relapses and chronicity. We withhold medication for one day or two to control some cases of hypotension; in most cases that is sufficient. In cases of persistent hypotension we change the type of drug, never the dosage, unless this be a case of idiosyncrasy.

3. *Medication insight.* We apply this term to the education of the patients ready for discharge, to accept medication indefinitely as part of the process of getting and staying well. We believe that besides the factor of low dosage this lack of consent from the patient is responsible for the high rate of relapses. We include in this education the relatives. To facilitate this consent the medication with thioridazine or trifluoperazine is very important because this drug does not cause slow down and drowsiness, which is, we have learned, the chief reason why patients reject medication after their discharge. During this education period we expand the activities of our patients, especially the socializing activities, and we find that they progress more rapidly and more fully.

The results of such treatment are as follows: Two wards of the continued treatment, having a population of 55 patients, with diagnosis schizophrenia, averaging 35 years in age and 7 years of hospitalization, chronically combative, elopers, suicidal and some lobotomized, were treated. During 1960 and '61 we discharged 26 patients, a social remission rate of 48%, the highest known to us.

Discharge policy was based on complete disappearance of symptoms, change in the pathological pattern of behaviour, ability to hold responsibility of privileges at least for 6 months, and ability to travel alone and adjust to the community.

Of these 26 patients, after the customary 1 year of trial visit, 11 or about 40% have been discharged who are working and are considered to have reached full remission; this is the highest rate known to us, the previous best being 6% reported by the Elgin State Hospital. Most statistics report within 6 months a relapse rate of 20%; we have had only 1 relapse, a rate of 4%.

To be noted is the observation of the follow-up; most patients have continued to improve while on trial visit, 2 social remissions becoming full remissions.

PROGNOSTIC SIGNIFICANCE OF INSIGHT IN SCHIZOPHRENIA

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A recent report(1) indicates that chronic schizophrenic patients who lack insight more often require hospitalization than those who recognize their illness, but that once hospitalized they respond to phenothiazines more favorably than those who "accept" their illness. This report relates our experience with newly admitted female schizophrenics and compares the responsiveness to phenothiazines in those with and without insight.

Paranoids lack insight more often and their improvement rate is considerably lower than that of the chronic undifferentiated type. When one compares the improvement

rate within this diagnostic subcategory, however, one finds that "deniers" improve as often as "acceptors." Contrasted to this, 66% of chronic undifferentiated "acceptor" patients improved, and only 27% of the "deniers" improved.

A recent paper(1) discusses "acceptors" and "deniers" in a group of chronic schizophrenic outpatients. It indicates "deniers" are more often hospitalized than "acceptors" but that once in the hospital the "deniers" respond more favorably to treatment with phenothiazines.

Our experience, though limited, would indicate that those who have insight will fare as well, if not better, than those lacking insight.

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In 82 newly admitted female schizophrenics (the chronic undifferentiated and paranoid segment of 98 patients) who participated in a study of the comparative effectiveness of chlorpromazine and trifluoperazine(2-4), it was found that the "deniers" and "acceptors" responded equally well in the paranoid schizophrenic—i.e., 30% improved in the "acceptor" and 36% improved in the "denier" group. In the chronic undifferentiated group 66% "acceptors" improved compared to a 27% improvement rate in the "deniers."

Insight was scaled as follows: No comment or a denial of any type of illness being associated with their hospitalization; 49% fitted into this category and were considered to have no insight or be "deniers." The remaining 51% acknowledged physical, nervous or emotional illness as the reason

for hospitalization and were considered to possess some insight and fitted into the "acceptor" group. Of the 30 paranoids, 57% had no insight compared to 45% of the 52 chronic undifferentiated patients.

Table 1 classifies the 82 patients into the two diagnostic categories and depicts the relative responsiveness of the "acceptors" and "deniers" to phenothiazine therapy. Table 2 is an abbreviated form of Table 1. $\chi^2=6.49$ $P<0.05$.

TABLE 2

Relative Responsiveness of Acceptors and Deniers to Phenothiazine Therapy

	NUMBER IMPROVED	PERCENT IMPROVED	NUMBER UNIMPROVED	PERCENT UNIMPROVED
Acceptors	22	52%	20	48%
Deniers	12	30%	28	70%
	$\chi^2=6.49$		$p<0.05$	

TABLE 1
Response of Acceptors and Deniers by Diagnostic Subcategory

CHRONIC UNDIFFERENTIATED TYPE—TOTAL 52 PATIENTS					
	NUMBER	PERCENT	NUMBER	PERCENT	
	TOTAL	IM-PROVED	IM-PROVED	UNIM-PROVED	UNIM-PROVED
Acceptors	29	18	66%	11	34%
Deniers	23	6	27%	17	73%
PARANOID TYPE—TOTAL 30 PATIENTS					
Acceptors	13	4	30%	9	70%
Deniers	17	6	36%	11	64%

The above should improve our prognostication, especially in the more frequent chronic undifferentiated schizophrenic.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

EFFECTS OF CHLORPROMAZINE ON BRAIN TISSUE RESPIRATION

JOSEPH WORTIS, M.D.,¹ AND EUGENE JACKIM, M.S.

In the course of study of the possible toxicity of blood serum taken from schizophrenic subjects we chanced upon the unexpected phenomenon of an enhancement of respiratory oxidative activity of the rat brain in the presence of serum of subjects under chlorpromazine medication (1). We therefore undertook to analyze this phenomenon further.

The mechanism of action of the tranquilizing drugs is still largely an unsolved problem. Much of the biochemical work concerning these drugs has centered on their effects on oxidative phosphorylation and binding of serotonin (2, 3, 4). Although this work has been very extensive much of it has been done *in vitro*, and there is still much controversy as to the effects of these drugs on respiration and phosphorylation under clinical conditions.

This report deals with the differential effect of chlorpromazine on brain tissue respiration, with respect to the time interval after injection, and with respect to specific brain divisions.²

White rats ranging from 140-160 grams were injected subcutaneously with 0.5 mg. of chlorpromazine in a 1 mg./ml. saline solution. Control rats were similarly injected with 0.5 mg. of normal saline. After various time intervals ranging from one hour to four days the animals were sacrificed by decapitation. The brains of each drug-treated and control pair were quickly removed and minced. Small aliquots (about 16-30 mg.) of the minced tissue were weighed and placed in a Warburg res-

pirometer flask containing two parts Krebs-Ringer phosphate solution with 200 mg. percent glucose and one part pooled normal human serum. The flasks were then oxygenated and run for tissue oxygen uptake according to standard Warburg procedures (5). Six flasks were prepared from the brain of each rat. After a 2-hour run the oxygen uptake readings were taken and the average oxygen uptake per mg. of tissue for each brain was obtained. In a number of runs, brain homogenates were used instead of minces.

In another study, 30-40 gram white mice were used in a similar manner except that no serum was added to the Warburg vessels. The mice were injected with 0.1 mg. of chlorpromazine and again decapitated after various time intervals. Control mice were injected with saline. The brains were separated into two portions, *viz.*, a cerebral hemisphere portion (including the cerebellum) and a midbrain and stem portion. These parts were then separately minced, weighed, and run in a Warburg apparatus as in the above experiment. The average respiration rates were then compared with those from the control animals.

RESULTS

Chlorpromazine under these experimental conditions appeared to produce a biphasic effect, with respect to elapsed time after administration, on whole brain minces and homogenates. Figure 1 shows the mean of the percent difference between the control and chlorpromazine treated animals, using minced brain. It is seen that there is an initial inhibition of respiration followed by an enhancement. Table I gives the actual experimental values expressed in mm. of oxygen consumed per mg. of tissue for the 2-hour period. Table 2 gives the values

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² This work was supported by the M. J. Solomon Fellowship Fund, and by an anonymous donor. Thanks are due to Dr. Constance Martin of Long Island University for friendly assistance.

FIGURE 1
The Biphasic Effect of Chlorpromazine on Whole Minced Rat Brain Respiration in Vitro

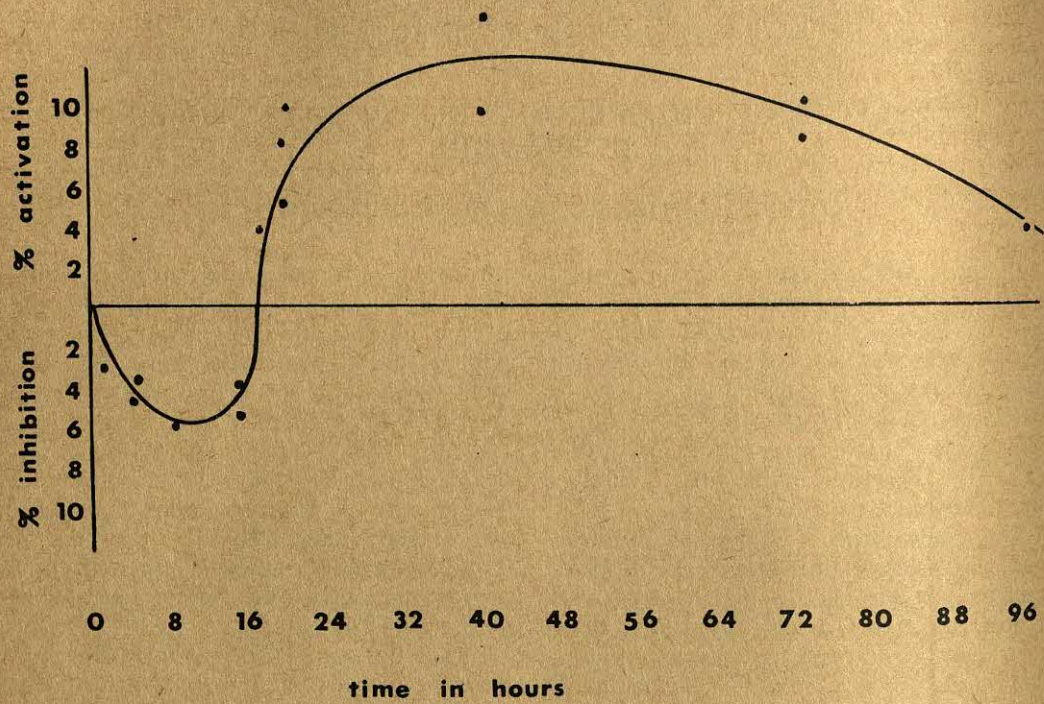


TABLE 1

Oxygen Uptake Values Per Mg. of Whole Brain Minces for a 2-Hour Incubation Period. Each Figure Represents the Mean Value of 3 Identically Prepared Flasks

TIME AFTER INJECTION IN HOURS	CONTROL	CHLORPROMAZINE	% CHANGE
1	3.20	3.10	-3
4	3.50	3.30	-5
4	2.47	2.37	-4
9.5	3.30	3.11	-6
16	3.82	3.67	-4
16	3.12	2.94	-6
Mean	3.24	3.08	-4.7
18	3.33	3.48	+4
20	3.32	3.59	+8
20	3.28	3.61	+10
20	3.41	3.57	+5
40	2.40	2.78	+16
40	3.36	3.66	+10
72	3.25	3.52	+8
72	3.16	3.53	+11
96	3.63	3.80	+4
Mean	3.24	3.55	+8.4

TABLE 2

Oxygen Uptake Values Per Mg. of Brain Homogenate for a 2-Hour Period. Each Figure Represents the Mean Value of 3 Identically Prepared Flasks

TIME AFTER INJECTION IN HOURS	CONTROL	CHLORPROMAZINE	% ACTIVATION
3.5	1.66	1.42	-14
12	1.67	1.48	-12
Mean	1.67	1.45	-13.5
19	1.51	2.05	+36
19	1.68	1.70	0
24	1.63	1.83	+12
24	1.37	1.36	0
28.5	1.55	1.63	+5
46	1.53	1.61	+5
48	1.50	1.59	+6
Mean	1.54	1.68	+9.1

for similar experiments using the homogenates. The homogenate values are all lower than the mince values, probably due to greater cell disruption. The rather large variations from one run to the next prob-

ably resulted from differences in room temperature and humidity during the time of preparation of the brain samples. By pairing the control simultaneously with the drug treated tissue this artifact is automatically cancelled out, as both samples are subject to the same conditions.

Thus in eight consecutive instances where the animal was sacrificed before 17 hours, an inhibition of brain respiration was found in every case and in 16 trials after 17 hours not a single instance of inhibited brain respiration was found. The basic finding of this reversal of effect thus has a high level

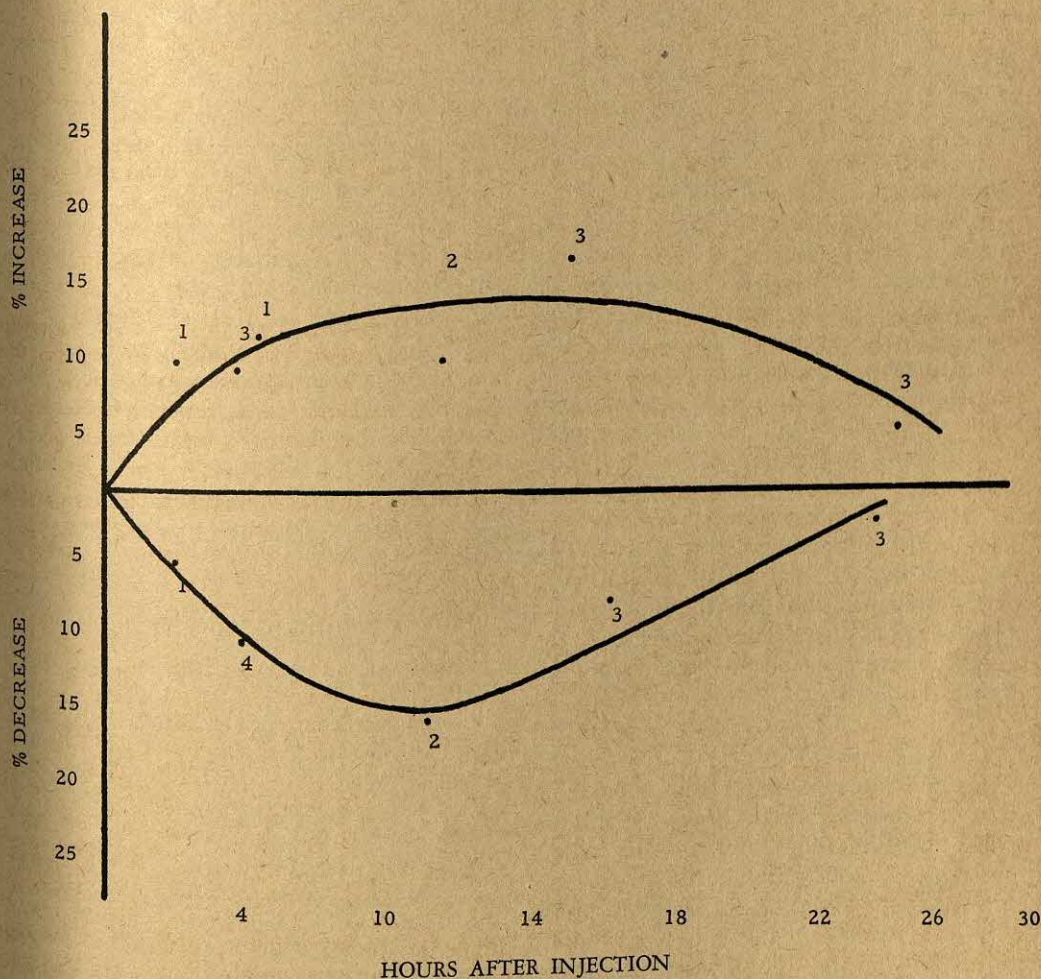
of confidence, with $p < .001$ (sign test).

Figure 2 represents the percentage change in oxygen uptake in the mouse brain hemisphere and brain stem with respect to time after chlorpromazine injection. The diagram shows that there is a pronounced tendency towards an increased hemisphere respiration, while that of the brain stem is usually decreased. Table 3 shows the actual experimental results of this experiment.

DISCUSSION

We do not know if the differential inhibitions and enhancements of brain respi-

FIGURE 2
The Effect of Chlorpromazine on Mouse Brain Stem and Hemisphere Tissue with Respect to Time Interval after Administration



The upper curve represents the hemisphere respiratory enhancement after chlorpromazine treatment, while the lower curve represents the respiratory inhibition on the brain stem after chlorpromazine administration. The numbers above the points on the curve represent the number of mice used to obtain the indicated average value.

TABLE 3

Oxygen Uptake Values Per Mg. of Mouse Brain Tissue for a 2-Hour Period. Each Figure Represents the Mean Value of 3 Identically Prepared Flasks

TIME IN HOURS	BRAIN STEM			BRAIN HEMISPHERES		
	CHLORPROMAZINE	CONTROL	% CHANGE	CHLORPROMAZINE	CONTROL	% CHANGE
2	2.08	2.19	-5	2.85	2.58	+10
4	1.73	1.95	-11	2.81	2.80	0
4	2.12	2.20	-4	2.92	2.49	+12
4	1.27	1.62	-21	2.15	1.88	+14
5	2.15	2.51	-18	2.38	2.11	+13
11	1.72	2.27	-24	2.88	2.07	+10
13	1.84	2.06	-11	2.41	2.45	-2
17	1.87	2.07	-11	2.33	2.23	+5
18	2.14	2.47	-13	2.53	2.03	+25
18	2.26	2.31	-3	2.72	2.23	+22
21	3.19	3.14	+2	2.91	2.29	-2
27.5	1.58	1.83	-13	2.00	1.90	+5
28	2.06	1.94	+6	2.26	2.08	+9
Mean	2.00	2.20	-9.7	2.50	2.29	+9.3

ration found in this study reflect functional activity in the intact brain. But these studies strongly suggest the necessity of distinguishing between the immediate and the prolonged effect of these drugs when studying their effects on metabolism. They also demonstrate the pitfalls involved in studying the brain as a single homogeneous organ as some of the biochemical studies have done. A differential biochemical effect with respect to area of the brain affected has also been observed by Mariani and Reda on the phosphatase enzymes(6). This tends to indicate that gross respiration is not the only metabolic activity which shows opposite effects in different parts of the brain in response to chlorpromazine administration.

SUMMARY

This work demonstrates that there is a biphasic effect on brain tissue respiration with respect to time interval after chlorpromazine administration to an intact animal. The first phase, lasting about 16 hours in the rat, reflects an inhibition of respiratory activity while the second, persisting about 4 days, reflects an enhancement of

respiration. It is not clear at this point whether this biphasic effect is due to a peculiarity of metabolic activity or simply represents a different rate of penetration into cortical and subcortical structures.

We have demonstrated that chlorpromazine can induce opposite effects on brain tissue respiration in different parts of the brain. The hemispheres including the cerebellum show an increased respiration while the midbrain and stem show a depression of respiration following chlorpromazine administration.

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MASSIVE DOSES OF TRIFLUOPERAZINE IN THE TREATMENT OF COMPULSIVE RITUALS

MILTON ALTSCHULER, M.D.¹

During the course of treatment of a chronic schizophrenic patient with incapacitating rituals of 8 year's duration, it was observed that increasing the dosage of trifluoperazine (Stelazine)² caused a remission of the compulsive symptomatology although the patient's autism and apparently flattened affect remained relatively unchanged. Since the compulsive ritual is found in all forms of psychiatric illness, it was decided to study the efficacy of treating patients exhibiting an incapacitating compulsive ritual with large doses of trifluoperazine.

Twelve patients with these symptoms were selected. All had been coded out as obsessive compulsive neuroses at least once and were classified as follows: 1. Chronic undifferentiated schizophrenia with incapacitating rituals, 4 patients; 2. Chronic undifferentiated schizophrenia with incapacitating rituals and mental retardation, 3; 3. Obsessive-compulsive neuroses, 3; 4. Obsessive-compulsive neuroses with mental retardation and grand-mal seizures, 2.

All patients had previously received somatic treatment, ECT and/or deep insulin coma, various drug regimens plus psychotherapy with little, if any, relief of symptomatology. Each patient was incapacitated by compulsive rituals at the onset of trifluoperazine therapy.

No attempt was made at environmental manipulation or psychotherapy. The only alteration in the patients' lives was the introduction of gradually increasing doses of trifluoperazine up to a maximum of 120 mgm. daily and a concomitant antiparkinson drug. The maintenance dose was determined as that which relieved the patient's symptoms. All patients were followed with monthly CBCs, urinalyses, alkaline phosphatases and BUNs. Patients were followed at intervals of 4-6 weeks in the out-

patient clinic.

Three patients were unable to tolerate the drug owing to development of reversible dystonias in spite of adjunctive antiparkinson drugs. Two patients who had dosages of 60 mgm. daily were unimproved when discharged from the hospital and then refused to take the prescribed medications. Two patients received dosages of 120 mgm. of trifluoperazine for 3 months without any improvement in the ritualistic behavior. Two patients showed marked improvement with complete remission of all ritualistic behavior on dosages of 60-90 mgm. daily. Two patients showed a moderate improvement and were able to function without much difficulty in a free social environment. One patient showed mild improvement and was able to function outside the hospital, but only in her home environment. The patients with the best response were those whose incapacitating rituals were complicated with such schizophrenic symptoms as autism, poor affect response, thought disassociation and delusions. These 5 patients did not show improvement until the dosage was above 40-60 mgm. daily.

The patients responding to the drugs were grouped as follows: 1. Chronic schizophrenia, 2 patients; 2. Chronic schizophrenia with mental retardation, 2; 3. Obsessive-compulsive, 1.

The 5 patients who showed improvement were maintained on the remission dose, varying from 60-90 mgm. daily, for a period of 6 months and then abruptly removed from the active drug with the substitution of an identical placebo. All 5 patients had an exacerbation of their incapacitating rituals within 1 month following the initiation of placebo substitution and responded within 2 months when the active drug was again built up to levels which caused the initial remission of symptoms.

After 10 months no patient showed any abnormality in their blood studies. The only side effects were dystonias noted above; there were no toxic complications.

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² Generous supplies of Stelazine were furnished by Smith Kline & French.

SUMMARY

1. Five of twelve patients with severe compulsive rituals showed improvement in symptomatology on high doses of trifluo-

perazine. 2. Blood and urine studies remained stable throughout the study. 3. Minor dystonic side effects were noted that were readily reversible when the drug was decreased or discontinued.

TREATMENT OF POST-TRAUMATIC HEADACHE WITH IMIPRAMINE

GEORGE PAULSON, M.D.¹

The etiology and treatment of post-traumatic headache rests somewhere in the wide borderlands between psychiatry and neurology. In the search for an effective way to treat the chronic pain and chronic complaints of patients with post-traumatic headache, we have employed a double blind study of imipramine (Tofranil)² in 14 patients in the past 20 months. Patients with obvious depressive symptoms or characterologic defects were excluded, as were all patients with abnormal neurologic or electroencephalographic examinations. All patients had had discomfort for over 6 weeks and all related the pain to trauma. Almost all the patients had dizzy spells, irritability, and complaints of memory loss or inability to concentrate. The pain was usually a steady dull frontal or generalized ache, increased by exertion or bending over. The headache was often made worse by sunlight or heat. Several patients objected strenuously to wearing a helmet, usually referred to as a "steel pot," and several patients had maximal tenderness in the local area of trauma.

The patients all received either imipramine 25 mg. t.i.d. or a placebo for at least 4 weeks. Six patients of 15 received the placebo. Six patients were completely, or almost completely, pain free after treatment. Two of the most dramatically im-

proved patients received only placebo.

In such a small series, with solely subjective criteria for improvement, results can hardly have statistical significance. Nevertheless, there is no conspicuous evidence that imipramine adds to the care of non-depressed patients with post-traumatic headache. We have seen 3 patients with depressive symptoms and a severely obsessive personality who had relief from atypical non-traumatic headache after receiving imipramine, and this concurs with successes reported by Webb and Lascelles(1). In a similar fashion post-traumatic headache in association with prominent depressive symptoms may benefit from treatment with antidepressant drugs. Work by Lebourges and Callie(2) would indicate amelioration of neurotic depression-like states in patients who have post-concussion syndromes.

Optimal treatment always depends on accurate diagnosis. Diagnosis of the depressive syndrome, after all, depends on definite symptoms and signs. If these signs are present in a patient with post-traumatic headaches, therapy with an antidepressant drug seems logical. In patients with post-traumatic headache who do not appear to have depression, imipramine is of no conspicuous benefit.

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¹ Dorothea Dix Hospital, Raleigh, N. C.

² Imipramine placebo kindly supplied by Geigy Company.

HIGH DOSAGES OF MEPROBAMATE IN CHRONIC SCHIZOPHRENIA¹

LAURENCE H. SNOW, M.D., KARL RICKELS, M.D., AND
HAROLD H. MORRIS, M.D.²

In the dose range usually employed (1.6-3.2 gm./day) meprobamate has repeatedly been found ineffective in ameliorating the symptoms of chronic schizophrenia. With phenothiazines, the dose range for effective treatment of psychotic patients is much higher than that used for non-psychotic patients.

Questioning whether this would be true for meprobamate, we placed 17 chronic schizophrenic patients from our seemingly drug refractory cases on relatively high doses of this agent. They received a daily dose of 8 gm. meprobamate for 5 days, then 3.2 gm. on the sixth day, 1.6 gm. the seventh day, and then no drug at all. These patients were in an active treatment unit which emphasized milieu therapy and their activity was in no way curtailed, although they were observed by the nursing and attendant staff. Blood pressure was taken twice daily, and any unusual behavior was reported immediately to the study doctors. On the basis of previous experience with meprobamate, we expected that its primary side-effect would be somnolence, but we had no other indication as to what meprobamate in this dosage might produce. The following results were noted:

1. Meprobamate produced no significant hypotensive effects in any of the patients. Diastolic readings (basal) were always above 60.

2. There were no withdrawal reactions.

3. The somnolent side-effect of meprobamate varied quite widely. At no time was this dose sufficient to prevent the patient from being aroused, although several patients became quite drowsy.

4. When drowsiness occurred it took place within the first 24 hours, and wore

off after 72 hours. A patient who was not somnolent at the end of 24 hours did not become so later.

5. While those who were the most somnolent seemed to exhibit the greatest therapeutic effects from the drug, the opposite did not also hold true. The size of the sample, however, precludes any significant correlation of somnolence and drug efficacy.

At the end of our study the patients were returned to their doctors and treated according to normal hospital routine. After six weeks, 6 of the 17 meprobamate patients had returned to the community. This is encouraging, particularly for a drug-refractory chronic schizophrenic population, but the size of the group makes adequate statistical treatment impossible.

Before, during, and after meprobamate, each patient was given a self-rating scale (Clyde Mood Scale). The results showed that, under meprobamate therapy, the patients tended to show increased friendliness and energetic capabilities. There was no apparent change in the categories of depression, aggression or jitteriness. A further interesting, though not statistically significant, result was that in some of the patients an increase in recall of previously threatening childhood memories was noted, and abreactive material heretofore withheld was now volunteered, indicating that meprobamate may also be of use as an adjunct to psychotherapy in psychotics.

SUMMARY

1. Meprobamate in high dosage seems to be of value in the treatment of some chronic schizophrenic patients. If it is, it will exert its clinical effects in a relatively short time.

2. High dosage meprobamate seems efficacious in the facilitation of abreactive recall, even when the drug alone is not sufficient to bring about a clinical change.

3. The absence of side-effects other than

¹ Work carried out at the Mercy Douglass Hospital, Philadelphia, Pa.

² Respectively, Instructor, Assistant Professor, Associate Professor, Dept. of Psychiatry, University of Pennsylvania.

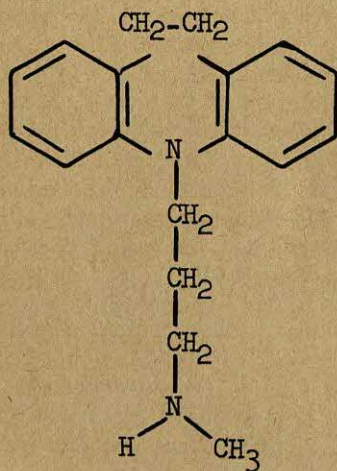
transient somnolence makes meprobamate a relatively easy drug to use in a controlled inpatient setting.

4. Further studies seem indicated to evaluate adequately large dosage meprobamate therapy in schizophrenia.

PRELIMINARY INVESTIGATION OF DESMETHYLIMIPRAMINE (G 35020)¹

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.²

This is a report of our experiences with desmethylinipramine in the treatment of depressive states. This compound is a mono-methyl analogue of Tofrānil. It differs from imipramine only in the absence of one of the two N-methyl groups and has the following chemical structure:



DESMETHYLIMIPRAMINE

It is described by the manufacturer as a potent, fast-acting antidepressant agent.

The drug was administered to 50 female patients suffering from acute or recurrent depressive illnesses. They ranged in age from 18 to 82 as follows: under 31—3; 31 to 40—5; 41 to 50—12; 51 to 60—7; 61 to 70—16; 71 to 80—5; 81 and over—2. It would appear that the group was slightly older, on the average, than the subjects we have previously treated with Tofrānil and Elavil. Diagnostic classification is indicated in Table 1. There appeared to be a somewhat greater proportion of manic-depressive psychoses and somewhat fewer neurotic depressive reactions than in the previously studied groups. Dosage was usually initiated at a level of 25 mg. t.i.d., and was increased to 50 mg. t.i.d., as necessary. Maximum dosage prescribed was 200 mg. daily.

As in previous studies, results were designated as satisfactory (A level) in patients

¹ Generous supplies of G 35020 (Desipramine) were furnished by Geigy Pharmaceuticals.

² Fairfield State Hospital, Newtown, Conn.

TABLE 1
Results of Treatment with Desmethylinipramine in Affective Disorders
(And Comparison with Other Drugs)

	DESMETHYLIMIPRAMINE				TOFRANIL(1)				ELAVIL(1)				MARPLAN(2)			
	TOTAL NO.	A.	B.	%A	TOTAL NO.	A.	B.	%A	TOTAL NO.	A.	B.	%A	TOTAL NO.	A.	B.	%A
Psychoneurotic depressive reaction	9	8	1	89%	22	15	7	68%	17	13	4	76%	33	24	9	73%
Manic-depressive reaction	26	18	8	69%	34	23	11	68%	16	11	5	69%	35	21	14	60%
Involuntional reaction	8	4	4	50%	9	5	4	56%	9	6	3	67%	10	7	3	70%
Psychotic depressive reaction	6	5	1	83%	14	13	1	93%	5	4	1	80%	14	12	2	86%
Senile with depressive reaction	1	0	1	0%	1	1	0	100%	3	2	1	67%	8	6	2	75%
Totals	50	35	15	70%	80	57	23	71%	50	36	14	72%	100	70	30	70%

who achieved a remission or much improved status, or as unsatisfactory (B level) in those who failed to improve or exhibited partial improvement only. As indicated in Table 1, 70% of the group exhibited an A level of improvement. Thus the final overall results were essentially identical with those obtained with previous antidepressant drugs, and were in the range of 70% to 75% successful results which, we have indicated (1), may be expected from effective antidepressant agents.

A few comments concerning the progress of patients during the course of treatment with desmethylinipramine are pertinent. Although in most instances, the drug appeared to exert its initial effect within the expected 7 to 10 days, with progressive improvement thereafter, there were 11 cases in which the initial phase of improvement was followed, usually at about the 4th week, by some degree of relapse, or by an extended plateau or levelling-off of improvement. Eight of these patients progressed finally to an ultimately satisfactory result, while 3 failed to respond further. Thus, the ultimate time factor for optimal improvement was, on the average, somewhat delayed, as compared with Tofrānil. It may be noted, on the other hand, that the drug produced a satisfactory response in several severely ill patients who had been refractory to other medications.

Complications or side effects were minimal, as follows : mild perspiration—7 ; dry-

ness of mouth—2 ; drowsiness—5 ; dizziness—3 ; and slight agitation—1. The degree of all of these side effects was very slight ; they usually disappeared after the first week or two of treatment. Drowsiness was apparently a subjective experience only, as somnolence was not observed clinically. Laboratory data remained within normal limits.

Again it may be noted that best results are obtained in the group of "psychotic depressive reactions." Thus, 34 of 39 patients (87%) in this category treated with 1 of 4 antidepressant agents achieved an A level of improvement.

It may be concluded, therefore, that desmethylinipramine is an effective antidepressant agent with minimal side effects. Certain reservations are to be recorded in view of a tendency toward the appearance in some patients, of a relapse or plateau in progress at about the 4th week of treatment. There suggests itself the possibility of combining this drug with small doses of imipramine, thereby utilizing the advantages of each. The drug appears worthy of further study in the ever increasing area of antidepressant agents.

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CASE REPORTS

SEVERE BRAIN SYNDROME FOLLOWING PHENELZINE¹ OVERDOSAGE

ALAN C. RAINE, M.D., AND SAMUEL F. THOMAS, M.D.²

Because of the widespread use of phenelzine (Nardil) for depressed patients, the possibility of suicidal overdosage is an ever present danger. Since treatment of the major central nervous system alterations in these cases is somewhat specific(1), it is felt that the following case with closely followed neurological changes well illustrates the suggested management.

A 20-year-old white female had a history of chronic depressive episodes for 2 years; no previous mental hospitalizations. She had been taking phenelzine for 3 months.

Approximately 30 hours before admission, the patient ingested 50 tablets of Nardil (750 mgms.). No other medication was taken. No effects were noted for 10 hours, when she gradually developed increasing weakness, lethargy, dizziness, and impaired gait, and was finally brought to the emergency room. Her blood pressure was 120/60; pulse 80 and regular; respirations 15 and regular. Pupils were slightly dilated and reacted sluggishly to light. Fundi were normal. Corneal reflexes were equal and active, and there was bilateral ptosis. Nystagmus was seen in the directions of lateral gaze. She had general hyperreflexia, transient left patellar clonus, sustained right patellar clonus, and a questionable Babinski reflex on the right. There were intermittent contractions of the jaw, and restless movements of the lower extremities.

She was admitted to the ward, and given Dilantin 100 mgms., and hydrated with 1500 cc. of 5%D/1/4NS. Over the next 2 hours, her restlessness increased to extreme writhing movements of the torso. At this time, about 33 hours following drug ingestion, she was given Thorazine 50 mgms. intramuscularly, with noticeable relief of restlessness after one-half hour. Shortly thereafter, she had a grand mal seizure, and was intermittently comatose with absent corneal and pupillary reflexes for about 2 hours.

Then, approximately 37 hours following drug ingestion, she awoke and was oriented. There were twisting dystonic movements with some waxy flexibility, and frequent periods of spontaneous clonic extensor jerking of the lower extremities. Visual field and fundi were normal. The lids hung down in a bilateral ptosis, and she tilted her head back in order to see what was directly in front of her. The left direct corneal reflex was greatly diminished. Deep reflexes were increased in upper and lower extremities, more so on the left, with plantar flexion and a strongly active sign of Rossolimo. Strength and sensation were normal. There was no finger-to-nose, nor heel-to-knee ataxia. The airway and movements of breathing were entirely normal.

Chemistries drawn shortly thereafter revealed: cephalin flocculation 2 plus; bilirubin 0.6 mg.; SGOT: 12; CBC: normal; urinalysis: normal. Improvement continued, and she was placed on Sparine 25 mg. q.i.d. and p.r.n. for severe restlessness. The following day an EEG revealed generalized abnormality with frequent slow wave runs and a temporal amplitude asymmetry.

From the second hospital day on, there was gradual improvement; the cephalin flocculation and EEG becoming normal by the ninth day. The only remaining neurological abnormality was a slight increase of the right ankle jerk.

It is possible that the toxicity of this drug results from the accumulation of serotonin and adrenergic substances in the brain, causing a hyperadrenergic response. In addition, a sympatholytic response may be present, explaining the frequent occurrence of hypotension(2). Because of this, adrenergic agents for the support of possible hypotension are contraindicated. In addition, the use of barbiturates for the convulsive manifestations is also contraindicated since the monoamine-oxidase inhibiting drugs potentiate barbiturates(3).

Supportive treatment is therefore the treatment of choice, and may be all that is

¹ Phenelzine dihydrogen sulfate.

² Dept. of Psychiatry, St. Luke's Hospital, New York City, N. Y.

necessary with the addition of phenothiazines if required (4). With supportive therapy alone, 1 case of overdosage was noted to recover from hyperreflexia in 3 days after a total dosage greater than that taken by our patient (4).

In summary, the patient developed profound central nervous system depression with acute changes and prolonged residue following a dose of 14 mg./kg. of Nardil, requiring over 10 days for full recovery. Therapy was supportive with emphasis on IV hydration acutely. In addition, pheno-

thiazine therapy, including parenteral administration acutely, and oral medication subsequently were used with good results.

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FATAL BONE-MARROW APLASIA COMPLICATING PROCHLORPERAZINE THERAPY

K. BHASKARAN, M.D., P. SUBRAHMANYAN, M.B.B.S.,
AND D. SATYA NAND, D.C.H.¹

In spite of the extensive use of prochlorperazine (Compazine) in the treatment of a variety of psychiatric syndromes, report of only one case of complicating blood dyscrasia has come to the author's notice.² The case reported below is of importance for the following reasons: 1. The patient developed aplasia of the bone-marrow as a complication associated with prochlorperazine therapy. The aplasia was evidenced clinically by peripheral blood-picture of anaemia, leucopenia, thrombocytopenia, prolonged bleeding and coagulation times and symptoms of irregular pyrexia, tiredness, and bleeding per rectum. The diagnosis was confirmed by examination of the sternal bone-marrow. 2. The complication was resistant to energetic treatment, which included repeated blood transfusions, and it ultimately proved fatal. 3. The patient had had prolonged treatment with chlorpromazine previously without any complicating blood dyscrasias.

J.T. was a 42-year-old woman admitted to hospital at the age of 13 with the complaints of restlessness, destructiveness, inability to concentrate, inability to look after herself, etc.,

all coming on after an attack of prolonged pyrexia when she was 9 years old. She was diagnosed as a case of post-encephalitic behaviour disorder, and during her long stay in the hospital she had had all the available treatments without significant improvement. The treatments included: chlorpromazine for 168 days with a maximum dose of 225 mgms./day, reserpine by intramuscular injection for 36 days with a maximum dose of 3 mgms./day and orally for 102 days with a maximum dose of 3 mgms./day. These treatments were not associated with any evidence of liver damage or blood dyscrasias. Her W.B.C. count had often reached figures of between 4000 to 5000 per c.mm. during chlorpromazine therapy, but it was possible to continue the treatment without any untoward symptoms, attributable to leucopenia.

Because she continued to be noisy, combative, destructive and uncooperative, she was started on prochlorperazine, after liver function tests, and total and differential W.B.C. counts showed normal limits: Total plasma proteins — 7.8 gms., thymol turbidity — 1, thymol flocculation — 1, Van den bergh test — negative, total W.B.C. count — 8100/c.mm., polymorphs — 65%, lymphocytes — 30%, monocytes — nil, eosinophiles — 5%.

Blood pressure was 110/70 mm. Hg and E.S.R. 3 mm. in 1 hour.

Prochlorperazine was given orally in doses of 25 mgms. b.i.d. and after 3 days the dose was raised to 25 mgms. t.i.d. The patient tolerated this dose well and appeared to be a

¹ Hospital for Mental Diseases, P.O. Kanke : Ranchi, Bihar, India.

² Stemetil in Psychiatry. Dagenham : May & Baker, 1951.

little quieter and more manageable after 17 days of treatment. Liver function tests were done regularly at 2-week intervals with normal findings. Her W.B.C. count had however come down to 5700/c.mm. with polymorphs 54% at the end of 3 weeks' treatment. The dose of prochlorperazine was reduced to 25 mgms. b.i.d. and so continued for another 46 days without any significant unpleasant symptoms or side-effects. W.B.C. count at weekly intervals varied from 6500/c.mm. to 4800/c.mm. with polymorphs ranging from 55% to 43%. On the 64th day of treatment the patient complained of feeling giddy and tired. The drug was discontinued and she was transferred to the infirmary. She developed, within the next 24 hours, pyrexia of an intermittent type, and bleeding per rectum. W.B.C. count at this time was 3200/c.mm. with polymorphs — 34%, lymphocytes — 64%, monocytes — 0%, and eosinophiles — 2%; R.B.C. count — 2.8 millions/c.mm.; E.S.R. — 73.5 mm. in 1 hour. Stool examination revealed R.B.C.'s in fair numbers, pus cells and macrophages in good numbers. There were no ova or cysts seen.

The patient was started on: crystalline penicillin — 400,000 units 3 hrly., Achromycin — 250 mgms. 4 hrly., vit. C. — 500 mgms. I.V. along with 100 cc. of 25% glucose t.i.d., vit. B. complex — 2 cc. I.M. daily.

The pyrexia and bleeding per rectum continued. W.B.C. count and other counts done 1 week after the development of physical symptoms revealed a total W.B.C. count of

750/c.mm. with polymorphs — 64%, lymphocytes — 32%, monocytes — 2%, eosinophiles — 2%; R.B.C. 2.4 millions/c.mm. Hb 6 grammes percent; platelet count 48,200/c.mm.; bleeding time 20 sec.

The patient was given 450 cc. whole blood and the massive antibiotic therapy was continued. Though the bleeding per rectum stopped temporarily, the pyrexia continued and there was no significant elevation in the W.B.C. and R.B.C. counts and the level of Hb.

A week after the first blood transfusion the patient started bleeding per rectum again and the various blood counts then showed no significant improvement. W.B.C. count was 650/c.mm. with polymorphs — 59%, lymphocytes — 37%, monocytes — 3%, eosinophiles — 1%; R.B.C. count was 2.2 millions/c.mm. with Hb: 5.4 grammes percent. Coagulation time 4.55 minutes and bleeding time 58 secs.

Examination of the sternal bone-marrow revealed complete absence of segmented granulocytes with myeloblasts predominating. There were very few myelocytes and eosinophiles were absent. Erythrocytic precursors were present though in reduced numbers.

The patient was given another 450 cc. of whole blood but her condition deteriorated rapidly and she died on the 26th day after development of the symptoms of pyrexia, bleeding, *etc.*, attributable to the bone-marrow aplasia.

FOUR DEATHS ASSOCIATED WITH CHLORPROMAZINE

ROBIE T. CHILDERS, JR., M.D.¹

Since the introduction of chlorpromazine (Thorazine) there have been innumerable articles attesting its efficacy and necessity in small and large dosages (1, 2) over both brief and long periods of time. Agranulocytosis with death is the main reported toxicity (1, 3). This report lists four deaths occurring on our female service during chlorpromazine administration. The bulk of clinical, laboratory, and autopsy data point toward chlorpromazine being the most likely causative agent. Three deaths occurred during acute intensive treatment of approximately 400 patients with chlorpromazine.

It is not the purpose of this report to impugn or unduly incriminate a highly useful drug but merely to re-alert us to the possibility of serious reactions occurring during chlorpromazine (and other related compounds) administration.

The mortality rate for ECT is about .1%. With up to 5 times the mortality rate occurring with chlorpromazine we should consider it with the same respect accorded to ECT.

With the introduction of most phenothiazines claims as to their efficacy and freedom from toxicity are made which may, in view of the paucity of evaluations, be premature.

It might be well if we recall that we are

¹ Richmond State Hospital, Richmond, Ind.

still learning about our first phenothiazine—its effectiveness, side effects and toxicity. Chlorpromazine still remains the model with which new drugs are compared.

One case, "Hyperpyrexia, Coma, and Death During Chlorpromazine Therapy," has been reported(4). Only the gross aspects of another case can be given due to inaccessibility of records. This patient was a female schizophrenic hospitalized some 10 years. She had received 200 mg. of chlorpromazine over a period of months. She swallowed a bolus of food and died of asphyxiation.

At that time we were not acquainted with the fact that the phenothiazines not infrequently interfere with the process of smooth deglutition. Since then we have encountered several cases where manual removal of a bolus prevented serious consequences.

The third case is a 68-year-old manic-depressive. She was placed on chlorpromazine 100 mg. q.i.d. which decreased her psychomotor rate, but she then developed a feeling of hopelessness on the 6th hospital day. Imipramine 25 mg. t.i.d. was started. She became more depressed and ECT was begun on the 12th hospital day at which time she was first noted to be icteric. Medications were discontinued. ECT was continued, resulting in some improvement, but her eating habits remained poor, necessitating tube feeding. She failed to make the expected progress physically and mentally, and her condition worsened the 36th day; she lapsed into hepatic coma and expired 40 days after hospitalization. As is known, most jaundice associated with chlorpromazine is quite innocuous. Why this case followed a different course is not known.

The fourth case is a 39-year-old schizophren-

ic admitted to the hospital 8 years previously. She received 800 mg. chlorpromazine daily with beginning improvement, but after 28 days of medication she developed a fecal impaction which progressed to intestinal obstruction that failed to respond to conservative measures. She underwent surgery, but died on the second post-operative day. We have recently encountered a similar case of intestinal obstruction also requiring surgery, but happily this case recovered.

We have been aware of the problem of stubborn obstipation and impaction for several years. In view of the rather marked and frequent atony of the bowel we must utilize various measures to prevent serious reactions.

SUMMARY

Four deaths associated and presumably linked with the administration of chlorpromazine is presented. Although the phenothiazines, which have so changed the outlook for psychiatric patients, can usually be administered with only the occurrence of minor side effects, we must always be alert to the possibility of serious side effects. Early recognition and proper treatment should materially reduce the mortality.

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HISTORICAL NOTES

JOHN HASLAM ON EARLY INFANTILE AUTISM

GEORGE E. VAILLANT, M.D.¹

Both Bradley(1) and Goldfarb and Dorsen(2) have compiled extensive bibliographies on childhood schizophrenia. Their reviews suggest that not until the first decade of this century when Raecke, de Sanctis, and Heller reported children with catatonia, dementia praecocissima, and dementia infantilis, respectively, was schizophrenia in childhood unequivocally observed. Bradley cites Friedreich in 1834 and Goldfarb credits Rush in 1812 as the first authors to acknowledge even *psychosis* in childhood.

However, in an 1809 textbook, *Observations on Madness and Melancholy*(3), John Haslam observed a patient who in many ways fitted our current concepts of childhood schizophrenia. Haslam, "apothecary to Bethlehem Hospital" and author of the first clinicopathological description of general paresis, recounted the case of a 5-year-old boy admitted in 1799 to Bethlem Asylum. At 1 the child had a severe case of measles. When he was 2, his mother noted that he was "more lively than usual," and more difficult to control. He did not walk until he was 2½ and did not say a word until he was 4. At the hospital, when separated from his mother, he wept only briefly. He was "constantly in action"; and "in a short time he acquired a striking talent for mimicry."

On physical examination his health was good. Although no evidence of neurologic deficit was mentioned, "he appeared to have very incorrect ideas of distances; he would frequently stretch out his hand to grasp objects considerably beyond his reach." Such an observation comes close to describing what today would be regarded as a defec-

tive awareness of ego boundaries or of body image.

Haslam goes on: "To watch other boys . . . gave him great satisfaction but he never joined them nor did he ever become attached to any one of them." He played in an absorbed, isolated fashion with toy soldiers, "retained several tunes and was able to whistle them very correctly," but he would not be taught to read. "Although he was acquainted with the names of many things and also with expressions which characterize passion, he applied them in an insulated way." Thus, Haslam described "splitting" of affect a century before Bleuler. Finally, Haslam completes his description of the child's autistic behaviour by remarking that the patient never used the first person singular but was "always speaking of himself in the 3rd person."

A postencephalitic syndrome cannot be ruled out, but Haslam's clinical report contains 17 of 30 possible items in Polan and Spencer's(4) check list of early infantile autism—even to the point of presenting the mother as a careful historian. In some respects, John Haslam's case appears to have anticipated more closely the observations of Kanner and Bender than any other report over the intervening 140 years.

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¹ 74 Fenwood Rd., Boston 15, Mass.

COMMENTS

THE NEW YORK PLAN

Considerable interest has been expressed in the master plan of the New York State Department of Mental Hygiene recommended by Governor Rockefeller in a special message to the Legislature. The master plan outlines in considerable detail the aims and policies of the Department for the next few years. It was devised to establish a working pattern for the orderly achievement of goals set up for the care of the mentally ill and mentally retarded.

Within the framework of this plan, priorities will be established every year as to what should be done and what appropriations should be requested. The basic focus of the plan consists of 1. The intensification of modern treatment methods; 2. Expanded and intensified research; and 3. Development of coordinated community services.

The intensification of modern treatment methods is based on experience gained on the treatment service for newly-admitted patients in New York State hospitals. These services were re-organized in 1956 to provide for the concentrated application of new therapies together with refinement and intensification of existing therapies. Each service has demonstrated clearly that intensive treatment of newly admitted patients can reduce the length of the patient's hospitalization and by discharging more patients earlier it is possible to reduce the hospital census.

Every state hospital, of course, in addition to the newly admitted patients, contains a large number of chronic patients. In New York State hospitals there are about 30,000 patients requiring long term care who have not responded to treatment. Many of these patients were admitted prior to the initiation of the new drug treatments. Others, while exposed upon admission to some of the new treatment methods, did not respond favorably. During the recent years six experimental treatment units have been operating in the state hospital system to retreat these patients. Results indicate that with intensive retreatment as many as

10% of these patients may improve sufficiently to return to their families. Of course, we do not know how permanent these improvements will be. Nevertheless, we feel that the complete pessimism which has long prevailed regarding treatment results with this group of patients is unwarranted. The retreatment of chronic patients offers sufficient hope to be an important aspect of hospital programs.

There has been much discussion regarding the relative merits of large or small state hospitals. Recognizing the therapeutic advantages of the small treatment unit and the economic advantage of the large physical plant, we believe that our large hospitals in New York could perform quite effectively if we were to decentralize the large hospital complexes into smaller units which are therapeutically self-contained but which can take advantage of the common services such as utilities, housekeeping and maintenance that can best be provided centrally. This program is working well in its pilot stages at Pilgrim State Hospital and Hudson River State Hospital where each smaller unit relates directly to the segment of the community which it services. The Department of Mental Hygiene is planning the future extension of this program in gradual stages to each of the larger state hospital complexes.

Another feature of the master plan is the provision of specialized therapeutic services for patients with special problems. These would include mentally ill and emotionally disturbed children and adolescents, the mentally ill blind, and the mentally ill deaf. Special children's units have been established in nine state hospitals to provide early treatment for children with severe emotional disorders and serious behavior problems. Ultimately, the department aims to have a division for this type of patient in every state hospital. A special unit for emotionally disturbed blind children will be organized, and two units for the mentally ill deaf, one in an upstate and one in a

downstate hospital.

In the central office the Department of Mental Hygiene is also organizing a special bureau for alcoholism and another for narcotic addiction. Special pilot treatment units for alcoholism have been established recently at Central Islip State Hospital and Rochester State Hospital. Special narcotic treatment units have been opened at Manhattan State Hospital, Central Islip State Hospital, and Utica State Hospital. These pilot treatment programs for alcoholism and narcotic addiction, if successful, will be expanded to other hospitals, provided a need is demonstrated.

Considerable attention will be paid to improved living conditions in the state institutions. New treatments can be successful only if linked with such improvements. Comfortable and dignified living conditions are not only therapeutic, but reflect a proper concern and respect for the individual patient. On a continuing basis this means a more plentiful and varied diet, improved housekeeping services, and less crowded facilities. The executive budget for the year 1962-1963 includes funds for improvement in living standards in the state hospitals and schools.

The program reflects broad concern for the mentally retarded with emphasis on improving and expanding the state schools and encouraging the development of coordinated community facilities. Significant progress has been made in the last eighteen months toward relieving population pressures in the state schools through the acquisition of several facilities formerly used for other purposes. These acquisitions, which now serve as auxiliaries for existing schools, include the Sampson Air Force Base Hospital, the J. N. Adam Memorial Hospital, the former veterans rest camp at Mt. McGregor, and Gouverneur Hospital (recently leased from New York City). A new school at West Seneca will open this year and three additional schools will be built at Mt. McGregor, in Huntington on Long Island, and in Brooklyn.

Better care for the severely retarded is another objective considerably furthered recently when the number of persons ministering to total care patients under ten years of age was doubled. Similar increases in staff

will now be provided to improve the care of patients over ten years of age who require constant attention. The budget also provides funds for a strengthened and expanded office of mental retardation in the Department of Mental Hygiene.

A major element in the mental health plan is expanded research. One of the new facilities projected is an Institute for Research in Mental Retardation. An institute for narcotic addiction and an institute for basic pharmacological research will be established at Manhattan State Hospital. New research centers will be organized in the Bronx State Hospital now close to completion and in other new institutions.

Obviously no improvements are possible in any treatment program without adequately trained personnel. The department is deeply concerned with training and recruitment of personnel for the care of the mentally ill and the mentally retarded, as well as provision for proper staffing. In conjunction with the Division of the Budget and the Department of Civil Service, the Department of Mental Hygiene will undertake a comprehensive study of the staffing needs in each institution in order to obtain a sound basis for establishing staffing patterns for future years.

A comprehensive state program for mental health can be effective only if mental health services in the community are strong and are operated in coordination with the services provided by the state. Community clinics and psychiatric units in general hospitals must be extended and enlarged to form a network of accessible facilities serving the community. Moreover, with proper relationship to community psychiatric clinics, nursing homes, homes for the aged, day hospitals, sheltered workshops, and similar community facilities are appropriate places for the care of persons with mild mental symptoms. Development of such integrated services will keep in the community many mildly ill persons who would otherwise have to be hospitalized. The department is particularly interested in developing through the community mental health boards more treatment clinics for prehospital and posthospital care. With such facilities available many patients with more serious disorders would not need to

be hospitalized at all, or would require only short term hospitalization with subsequent treatment in the community. This does not mean, of course, that hospitals for the treatment of mental diseases are obsolete or will become obsolete in the foreseeable future.

The master plan looks toward removal of the existing *per capita* ceiling on state reimbursement for local psychiatric services and immediate implementation was recommended by the department. For budgetary reasons, however, removal of the ceiling was not possible this year, but the *per capita* maximum of reimbursement for community mental health expenditures was raised from \$1.20 to \$1.40. It is Governor Rockefeller's intention to appoint a committee of experienced individuals from outside the state government to study the whole problem of fiscal responsibility for state and local mental health services.

Any new progressive plan for the care and treatment of the mentally ill and the mentally retarded should provide for a thorough review of the laws pertaining to them. Many of the laws, especially those relating to mental hospitals, are geared not to today's needs, not to hospitals for treatment and rehabilitation, but to the practices of over a century ago when the "insane asylum" was used as a fortress for society's protection. Many complex and anachronistic provisions frequently work to the detriment of mentally ill persons who are in need of the modern treatment which

mental hospitals now provide. It has been recognized that the laws relating to admissions are in need of comprehensive revision to reflect the great advances in treatment methods and social attitudes which have changed the mental hospital from a place of incarceration to a place of treatment. At the same time, effective safeguards of due process must be incorporated to protect basic individual rights and liberties. A comprehensive study of admission procedures has been undertaken by a special committee sponsored by the Association of the Bar of the City of New York in cooperation with Cornell Law School. This special committee has been working closely with the Department of Mental Hygiene. A bill based on the findings of this committee and providing for much-needed legal reforms in this field has been submitted to the Legislature for study. In a future editorial we may describe the provisions of this bill.

The New York plan, outlined here only in its essential elements without reference to detail, is a delineation of broad purpose reflecting current concepts and philosophies of care and treatment. For administrative purposes it is projected over a five-year span and gradual implementation is expected. Basic to its realization, however, is full provision for flexibility and adaptation to whatever advances, whatever changes, tomorrow may bring.

P. H. H.

EDUCATION

Man, unlike other animals, from the beginning of time has been driven by the "how" and the "why," yearning to achieve greater moral, aesthetic, and scientific clarity. From this uncomfortable impulse, the most painful penalty for the theft of the apple, has sprung intellectual progress. The teacher of almost any important branch of learning who is not interested in the exploration of new ideas or understanding is as out of place in a university as a prohibitionist in a winecellar.

—HANS ZINN SER
(As I Remember Him)

NEWS AND NOTES

A.M.A. FIRST AID MANUAL.—This compact soft-bound 48-page booklet is profitable reading, for anyone may unexpectedly find himself in an emergency situation where skilled professional help is not immediately available.

Here are listed accidents, injuries and conditions requiring prompt attention, hemorrhage, arrested breathing, shock, poisoning, burns, unconsciousness, heat stroke, fractures, mental disturbances, radiation, emergency childbirth, *etc.*

Instructions are clear, with things listed under DO and under DON'T, with other special directions.

There is also a list of first-aid supplies, and an index of emergencies and procedures.

The Manual may be had from the American Medical Association, 535 N. Dearborn St., Chicago 10, at 15 cents per copy.

ACADEMY OF PSYCHOSOMATIC MEDICINE MEETING.—The ninth annual meeting of the Academy will be held in Minneapolis, November 1-3, 1962 at the newly remodeled Radigan Hotel. The program will be suited to the needs of practicing physicians in all branches of medicine since few illnesses are devoid of psychosomatic complications. There will be a distinguished panel of speakers and numerous interesting extra-curricular features are planned.

DR. IRENE MCCAIN MCFARLAND.—Dr. McFarland, president of the North Carolina Mental Health Association, died in her sleep at her home in Wilson, N. C., July 4, 1962. She was only 38 at the time of her death and was going about her professional and social duties as usual the preceding day.

Dr. McFarland received her A.B. degree from the University of North Carolina and her M.D. from the University of Pennsylvania. Following her intern years she devoted herself to mental health work. She organized and was the first president of the Wilson County (N. C.) Mental Health Association, likewise the director of North

Carolina's first aftercare clinic, a position she held at the time of her death.

Dr. McFarland had served on the staff of the Dorothea Dix Hospital, Raleigh, and had experience on the staff of the South Carolina State Hospital at Columbia. She became a member of the American Psychiatric Association in 1956.

She was the wife of Dr. Daniel M. McFarland, Chairman of the Department of Social Studies at the Atlantic Christian College in Wilson, N. C.

RIO DE JANEIRO PSYCHIATRIC ASSOCIATION.—This new organization was founded August 7, 1961 with 144 founding members. On November 20, 1961 a constitution was adopted and officers were elected: President—Dr. Pedro Pernambuco Filho; Vice-President—Prof. José Lemo Lopes; First Secretary—Dr. William Asmar; General Secretary—Dr. Paulo Marchon; First Treasury—Dr. Almir Almeida Guimarães; Second Treasury—Dr. Rawlinson Prestos Lemos.

THE BOSTON SOCIETY FOR GERONTOLOGIC PSYCHIATRY, INC.—The Boston Society will hold its third annual scientific meeting, Nov. 3, 1962. The all-day symposium will be devoted to the subject of "Emotional Disorders in the Aging Process." Speakers tentatively scheduled are Dr. Helene Deutsch, Maxwell Gitelson and Sidney Levin.

For further information, contact Dr. Norman E. Zinberg, 330 Brookline Avenue, Boston 15, Mass.

PRIMATE RESEARCH.—The U. S. Public Health Service has announced grants to Harvard and Tulane Universities totaling \$5 million for the construction and operation of primate research centers. Construction of the centers will begin early in 1963. The total grant is divided equally between the two universities.

CENTRAL OFFICE STAFF CHANGES.—President C. H. Hardin Branch announces that

the Executive Committee of Council, meeting on June 18, 1962, received and accepted the resignation of Dr. Mathew Ross as Medical Director of the American Psychiatric Association.

Effective July 15, 1962, Dr. B. W. Hogan, formerly Assistant Medical Director, was appointed Acting Medical Director. A "Search Committee" has also been selected to recommend a successor to Dr. Ross comprising Dr. Jack R. Ewalt, Chairman, with Doctors Francis J. Gerty, William G. Menninger, Mabel Ross, John R. Saunders, John C. Whitehorn and David C. Wilson.

Dr. Ross succeeded the first Medical Director, Dr. Daniel Blain, in 1958. He has accepted a Fulbright Award for Research for 1962-63. As a Fulbright Research Scholar he will spend the year studying psychiatric facilities and practices in the Netherlands. He will be affiliated with the University of Groningen.

Dr. Ross is congratulated on the honor thus accorded him and takes with him the best wishes of the Association.

UNFINISHED TASKS IN THE BEHAVIOURAL SCIENCES.—This is the title of a symposium to be held October 13-14, 1962 at the Chicago Medical School. A distinguished staff of speakers, local and from other countries will conduct the symposium, which will be opened by an address by Dr. Percival Bailey, Director of Research, Illinois State Psychiatric Institute.

HIGH ROAD TO MENTAL HEALTH.—This 16-page booklet is "a summary and brief interpretation of the principal recommendations from a 5-year study of psychiatric treatment services in Canada, by the Canadian Mental Health Association's Committee on Mental Health Services." Copies are available at 50c each (35c in quantities of 10 or more) from the Canadian Mental Health Association, 11½ Spadina Rd., Toronto 4, Canada.

NEW YORK UNIVERSITY SCHOOL OF MEDICINE TRAINING FELLOWSHIP.—New York University Medical Center is offering a 3 months Training Fellowship, with stipend

of about \$1,000 in Neuroanatomy and Neurophysiology, beginning March 4, 1963. Candidates holding the M.D. or Ph.D. degree and interested in teaching or research in these subjects are eligible. Applications should be in by January 1, 1963. For information, apply to: Dr. Louis Hausman, Department of Anatomy, New York University Medical Center, 550 First Avenue, New York 16, N. Y.

INTERNATIONAL COUNCIL OF GROUP THERAPY.—Present officers of the Council are: President, J. L. Moreno, M.D.; First Vice-President, S. H. Foulkes, M.D.; Second Vice-President, Serge Lebovici, M.D.; Treasurer, A. Friedeman, M.D.; Secretary, Berthold Stokvis, M.D. The Board of Directors includes: J. Bierer, M.D.; J. Favez-Boutonnier, M.D.; Zerka T. Moreno, M.D.; E. E. Krapf, M.D. Inquiries as to the Third International Congress of Group Therapy may be directed to: P.O. Box 311, Beacon, N. Y.

CONGRESSIONAL GRANTS FOR MENTAL HEALTH 1962-1963.—The National Committee against Mental Illness reports that grants for the coming fiscal year have been voted at \$143,599,000. This is approximately \$35,000,000 over last year's appropriation. The most important feature of the new program involves \$4,200,000 to be allocated as matching grants to the states for carrying out recommendation of the Joint Commission on Mental Illness and Health.

MENTAL HEALTH BOOK REVIEW INDEX.—Vol. 7, 1962, Whole No. 12. With an editorial: The conservation of knowledge about human behavior. xiii, 66 pp. This Review Index, sponsored by the World Federation for Mental Health and others, is now available. Annual subscription: \$3.00. Address: "The Index," c/o Miss Lois Afflerbach, Paul Klapper Library, Queens College, Flushing 67, N. Y.

MOUNT SINAI HOSPITAL INSTITUTE OF PSYCHIATRY.—This Institute in New York

City, due for completion in the autumn 1962, will receive from the NIMH five training grants for training in adult and child psychiatry, aggregating \$800,000. This institute is reported to be the largest psychiatric unit of a general hospital in the United States.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC.—The Board of Directors of the American Orthopsychiatric Association have appointed Leon Eisenberg, M.D., as Editor of the *American Journal of Orthopsychiatry*, to succeed George E. Gardner, M.D., who has resigned after 14 years. Dr. Eisenberg will begin his work with the January 1963

issue of the *Journal*, filling out Dr. Gardner's term and continuing through April 1966, serving a full three-year term of his own.

Dr. Eisenberg is a member of the Subcommittee on Classification of Mental Illness of the United States National Committee on Vital and Health Statistics, and of the Advisory Editorial Board of the *Journal of Child Psychology & Psychiatry*.

The Orthopsychiatric Association has appointed Grace McGraw Smith to the newly instituted position of Managing Editor, with offices at the Association's headquarters in New York City.

All editorial communications should be sent to the *American Journal of Orthopsychiatry*, 1790 Broadway, New York City 19.

CUSTOM

It exercises over great multitudes an almost absolute empire, regulating their dress, their education, their hours, their amusements, their food, their scale of expenditure; determining the qualities to which they chiefly aspire, the work in which they may engage, and even the form of beauty which they must cultivate. It is happy for a nation when this mighty influence is employed in encouraging habits of life which are beneficial, or at least not gravely prejudicial to health. Nor is any form of individual education more really valuable than that which teaches the main conditions of a healthy life and forms those habits of temperance and self-restraint that are most likely to attain it.

—W. E. H. LECKY

BOOK REVIEWS

THE VAMPIRE IN EUROPE. By Montague Summers. (New Hyde Park, N. Y. : University Books, 1962, pp. 329, incl. index. \$7.50.)

This is a new edition of the book published in 1929 which followed another titled *The Vampire, His Kith and Kin* published the previous year. This earlier volume dealt with the history of vampirism in nearly all parts of the world save Europe, and from the remotest antiquity. The book with the present title deals with Europe, and therefore serves to fill out the picture. The original volumes were illustrated, showing vampires in action. The present edition unfortunately omits pictures.

It differs also from the earlier ones in another important feature. It contains a valuable biographical essay by Father Brocard Sewell, a Carmelite monk, about Montague Summers who was almost as mysterious as the characters whose natural history, world-wide prevalence and age-old occupancy of the planet he has so horridly-delightfully and authoritatively described. This biography, all too brief (pp. 10), was needed to complete the story.

Summers apparently delighted in creating mystery or allowing mystery to grow about him and took no trouble to clear it away. The author of the biographical essay admits that Montague Summers was a *bona fide* Catholic priest, but states that his name does not appear in the clergy lists and urges utmost caution in accepting supernatural data discussed in this book as representing the views of the Church. Summers maintained a chapel in his dwelling where mass was regularly said. Also, dressed in full canonicals, he would occupy a box at the theater and guffaw heartily at bawdy jokes.

He died suddenly in 1948 at the age of 67. He had written Volume I of his autobiography (not yet published); but Volume II, dealing with his ecclesiastic relations and his witchcraft, werewolf and vampire investigations, was still to write.

There is a mystery to be cleared up concerning his death and matters immediately sequent. His male secretary and heir followed Summers shortly in death, and all the latter's private papers and literary remains, except Volume I of the autobiography, completely disappeared. Father Sewell assures us that the manuscript of Volume I is in his possession and is being edited for publication, and that over the years he collected material on all aspects

of Summers' life, and this will also be published and may have to serve as a substitute for Volume II.

In how far did Montague Summers accept as real the various features of occultism to which he devoted so much time and described so fully? He stated in so many words that he believed in "the fundamental truth, which however exaggerated in expression or communication, essentially informs the Vampire tradition." He had lived with vampires on the basis of first hand information, gathered in the course of years in various parts of the world.

The known facts of his life suggest anything but credulity, but his case histories do not suggest that he sought to discourage credulity in his readers. Among other denizens of the nightmare world he recounts the activities of *Varney the Vampire* and of *Dracula*. (The latter appeared on the stage some years ago, with nurses stationed in the theater to minister to fainting ladies.)

If there be any who are unfamiliar with the biology of vampires, it may be stated that they are persons who have lived and died—*ante mortem* perhaps as werewolves—and who now maintain their vitality by sucking the blood of sleeping persons, preferably from the throat, and whose life may thus be drained away. And these are the creatures that this book is about. "And don't forget," as the epilogue to *Dracula* comfortingly assured, "that there are such things."

C. B. F.

CLINICAL MANAGEMENT OF BEHAVIOR DISORDERS IN CHILDREN. Second Edition. By Harry Bakwin, M.D., and Ruth Morris Bakwin, M.D. (Philadelphia : W. B. Saunders, 1960, pp. 597.)

This is the second edition of an unusually excellent, comprehensive book previously extensively reviewed. Drs. Bakwin strongly feel that the care of psychologic disturbances in childhood "is primarily the concern of the physician who cares for children." The encyclopedic range of topics, the eminently readable, well printed pages, the references and good index are a tribute to the knowledge Drs. Bakwin have of the needs of those who try to cope with emotional disturbances of children.

The authors present the various topics with authority, obviously holding to what are the facts known today and with the emphasis on

clinical management based on an understanding of the particular problems. The section on Diagnosis and Treatment of Behavior Disorders in Children is a gem. If one is interested in pursuing a special topic, why there are key references to help. Drs. Bakwin do not pretend to be exhaustive in dealing with the extensive range of problems but the basic facts and clinical pictures are admirably presented.

Pediatricians, general practitioners, psychiatrists will find this book useful and valuable. Even child psychiatrists will find it a useful volume, although they may dispute the treatment approach here and there. Certainly psychiatry residents, including those in child psychiatry training, ought to have this book as one of the texts. If one is analytically trained or oriented, one may take issue with the management of the problems as proposed by the authors. This by no means reduces the value of the work which does not pretend to be an analytic approach to behavior disorders in children. In these days of endless books, it is refreshing to see such a scholarly and significant volume.

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THE PSYCHOLOGY OF DEAFNESS. By *Edna Simon Levine, Ph.D.* (New York: Columbia University Press, 1960, pp. 381. \$7.50.)

The psychological consequences of deafness have been difficult to define. While the notion of a "deaf personality" has been effectively dispelled, it is still clear that deaf individuals do have in common many similar problems. The major focus of this book is the exploration of the deaf or hard of hearing person's world, in order to clarify these problems and to help provide a basic understanding for those who would work professionally with the deaf.

The book begins with a detailed presentation of the implications of hearing and impaired hearing. This is followed by a discussion of rehabilitation settings and problems of adjustment to disability. The third section deals with the psychological examination, and a final chapter is devoted to research needs for the area.

The uneven quality of this book is especially apparent in the section on psychological assessment, even though this topic is of major significance for the book as a whole. Some tests are discussed in detail; others seemingly as important are barely mentioned. The author's experience in this area is extensive and her observations and suggestions are sound; however, her book is less valuable than it

might have been because she simply does not provide enough information about the various assessment techniques. Many of the tests are cited by name, but how they might be useful, how valid they are, or how they need to be adapted for use with the deaf, are questions that are too often left without adequate answers. Although calling for more research, the author has not made effective use of research results already available. In fact, by her repeated use of the phrase, "... in the writer's experience ...," she supports the authority of experts rather than knowledge based on research evidence.

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TRAINING FOR RESEARCH IN PSYCHOLOGY.
Edited by *Karl S. Bernhardt.* (Toronto: University of Toronto Press, 1961, pp. x + 130. \$4.00.)

In the spring of 1960, 41 Canadian psychologists, plus one invited representative from the United States, met to discuss problems of psychological research and research training in Canada. This little volume summarizes the discussions and conclusions of this conference. The emphasis is on training at the graduate level, and the impact of that training on both the quantity and quality of research in this field. The editor has done a very good job in communicating both the work and the atmosphere of the meeting. The issues are clearly stated in a series of 58 propositions, each of which was voted upon by the group, thus providing an index of the degree of controversy attending each. Also included are brief preliminary papers written by members of the conference.

Naturally, among so many propositions a few turn out to be familiar clichés: *e.g.*, "While recognizing the great importance of new knowledge it should be understood that the education of the individual research psychologist is the prime concern of all those responsible for his training." On the other hand, the proportion of well-conceived and well-stated principles is encouragingly high. The total picture that emerges suggests a real concern with the problems of providing the student not only with the tools and settings, but also with the attitudes and enthusiasms that lead to research of high quality. Certainly this book suggests that academic psychologists are not satisfied with the *status quo* in training for research; very few of the propositions are self-congratulatory.

This book is also interesting because of what

it suggests of psychological research in general, both in Canada and the United States. The problems of training research psychologists mirror the problems of research psychology. For example, considerable discussion was devoted to the place of methodology, and the problem of good research in the "soft" areas. This discussion is summarized by the statement, "Psychological research should not be limited by any one narrow view of the 'right' way to do it." Psychology as a science is struggling to find its indigenous research methodology, and areas of great importance are ignored or distorted to meet canons of scientific rigor. A hopeful note of relaxation in this rigid attitude sounds in these proceedings. Another nexus of problems concerns the applied person within a research discipline. A "liberalized conception" of psychological research was suggested in the conference as applying to the graduate student oriented toward a professional career in applied psychology. However, there is a potentially dangerous schism in psychology between some of its applied and research people. Surely the role of research in applied training cannot be defined until there is some resolution of this problem in the field as a whole. These and other problems of training reflect currents in the entire stream of modern psychology.

This reviewer has a few reservations about these discussions. Most of the matters discussed and the propositions formulated deal with general conceptions, the philosophy of research and research training. Seldom is there a concrete suggestion or a specific exploration of the sources of disagreement. Perhaps this limitation to generalities is dictated by the nature of any such conference, or perhaps the situation at any given institution is so unique that no specific proposal could find acceptance. Nevertheless, one wishes for more controversy about specifics than agreement about generalities. One also looks in vain for fresh ideas about such important problems as student selection for research training. It seems ironical that psychologists should have so little new to say about the raw materials for making a dedicated and productive research person.

In summary, this book is informative and provocative, viewed either as the summarization of the thoughts of distinguished psychologists on the subject of research training, or as a reflection of the state of psychology as a research discipline in both Canada and the United States. It merits the attention both of psychologists and persons in related disciplines who want to know more about psychological

research and researchers.

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THE GUTENBERG GALAXY. By Marshall McLuhan. (Toronto: University of Toronto Press, 1962, pp. 294.)

This interesting book is subtitled "The Making of Typographic Man." It is written in a rather episodic style, and is really quite fascinating, for its thesis is that literacy and the printed word have revolutioned the field of recognition of civilized man. It has taken him out of his nonliterate tribal societies and ushered him into a visual open world of specialized and divided consciousness. "The individual versus the state, thought versus feeling, art versus commerce, and science versus humanism are the most familiar of the schizoid states which we recognize as the inevitable legacy of literacy in any culture or in any period or history." But this is only one of the themes of Professor McLuhan's prismatic volume.

Typography helped to turn the vernacular tongues of Europe into mass media, and thus served to homogenize and reconfigure into collective forms the dissociated masses of Europe, into peoples with a national consciousness, and the author suggests, a collective unconscious. As Claude Bernard remarked, it is altogether unimportant whether a theory be right or wrong. The important thing is that it should be fruitful. That Professor McLuhan's book will fructify the minds of all who read it, I have not the least doubt. It is an original and highly stimulating work.

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EXPERIMENTAL PSYCHOLOGY. By Burton G. Andreas. (New York: John Wiley & Sons, 1960, pp. xii+595.)

This book is a most commendable elementary presentation of aspects of method and content of psychology in a brief and stimulating fashion. The apparent intention is not only to convince the student of the value of a scientific study of human behavior, but also to give him a "feeling of participation in an on-going scientific enterprise."

Part I deals with "general principles, methods and techniques of the field," and Part II "shows how general methodology and specific techniques have been applied to major problem areas in research." The organization of the material is such that both parts may be studied simultaneously. In the first part, psychology is

viewed as that branch of science which "seeks to express the laws of behavior," and the research process is described with concepts such as operational definitions, dependent and independent variables, laws, hypotheses and the design of experiments in relation to making statements of the form, "if A, then B." Measurement and scales are considered in terms of the degree to which they possess properties of the number series. Descriptive and sampling statistics are presented, "merely as an adjunct to a laboratory course." Excellent summaries are presented on psychophysical and psychological scaling techniques. Part I concludes with some suggestions for writing a research report, and a terse statement on the relation of theory to research.

Part II includes good summaries of some of the variables relevant to vision, hearing, verbal learning, perceptual-motor skills, retention, transfer of training, problem solving, and social processes. The author's intent is that the student will see in these several content areas specific applications of the more general principles presented in Part I.

The language is not too technical, bordering, if anything, on the popular, rather than the rigorous. Illustrations are selected so as to be understood easily and to clarify readily points in the presentation.

A book on this topic must be considered in terms of the magnitude of the problem of writing a comprehensive text. Complete coverage of all relevant aspects of method and content of psychology in a single elementary book is impossible. Selection is essential. As is pointed out, not only are historical reviews, physiological mechanisms and particular theoretical positions omitted, but also are illustrative studies limited to those on human subjects. Limited space has been devoted to the mathematical concept of probability, and to the manner in which it is utilized to permit scientific statements in the absence of complete knowledge. The logical status of theory in the whole research process is covered in a rather cursory fashion. Human conditioning, a significant content area, is not included. The addition of chapters dealing with perceptual-motor skills, and with social processes in place of the traditional chapters on chemical and cutaneous senses seems a desirable change.

In spite of these deliberate omissions, abbreviations and changes, the book admirably succeeds in accomplishing its goal—namely, considering method and content in an interdependent relation to each other. In comparison with earlier books on this subject, this text is significant in that method and content are both

stressed, suggesting the close dependency of content on method. As a science progresses, changes in material included in books of this sort are expected. Social processes and other areas not previously studied by rigorous research methods can now be included as experimental psychology, indicating that the title of the book does not designate the same limited area that it once did.

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PATHOLOGISCHE REAKTIONEN DER PERSONLICHKEIT (Pathological Reactions of Personality). Vol. 1. By *Nicola Schipkowensky*. (Vienna : Wilhelm Maudrich Verlag, 1960, pp. 210.)

Dr. Schipkowensky, who is professor of psychiatry at the University of Sofia, Bulgaria, is well-known for his many scientific publications in all fields of psychiatry (e.g., *Schizophrenie und Mord*). His teaching represents a combination of Kraepelinaean and Pavlovian psychiatry which is very well reasoned and plausible. Many North American psychiatrists have a tendency to ignore these points of view, partly because of difficulty in gaining access to up-to-date material on these subjects and partly because of increasing divergencies of view points. The present book gives an opportunity for those who read German to get acquainted with a fine sample of this particular band of European psychiatry.

This is the first volume of a work devoted to the pathological reactions, but it contains much more than that. First of all, it is a reassessment of the much discussed problem of psychiatric nosology. The author is well aware of the attacks which recently have been launched against a supposedly "outmoded" psychiatric nosology, but maintains that a firm nosologic system, based on the concept of specific disease entities, is both necessary and proved by the facts. It is necessary because it is the only system which brings clarity to psychiatry from the theoretical as well as the practical point of view, but above all it is proved by the facts, insofar as these are submitted to an impartial analysis. The main error of the anti-nosologists has been their confusion of syndrome and disease entity. Because in various psychiatric and neurological conditions one can see depressive states, epileptic fits and symptoms resembling schizophrenia, they denied the existence of manic-depressive illness, genuine epilepsy and schizophrenia proper, as if both were not compatible.

The first part of the present volume is de-

voted to a much needed clarification of concepts, among others the concept of psychiatric reaction. Schipkowensky uses this word strictly in its original meaning, not in the meaning which Adolf Meyer has given to it in North America. The general substitution of the terms "schizophrenic reaction" and "psychotic depressive reaction" for "schizophrenia" and "melancholia" amounts to making the word "reaction" synonymous with "mental condition" and robs it of any real meaning. Schipkowensky uses the word "reaction" only in those cases, 1. Where a definite relationship of cause and reaction can be posited, 2. Where this relationship is psychological with an implied "psychogenesis," "psychodynamics" and "possible removal through psychotherapy," 3. Where the patient actually experiences the cause subjectively. Such reactions need not be immediate; they can appear many years after the cause through the effect of a precipitating agent. The reaction can also expand from the trauma itself to the whole surrounding circumstances, and become very complex and elaborate (as is the case in hysteria).

Among reactions of the personality, some take the form of neuroses, others present a psychotic picture. The author accepts the existence of reactive depression, reactive epileptic convulsion and reactive schizophrenic picture, but insists that these should not be confused with manic-depressive illness, epilepsy and schizophrenia. These psychogenic psychoses will be dealt with by Schipkowensky in the second volume. The present volume contains descriptions and analyses of neurasthenia and anxiety neuroses from the author's point of view.

Schipkowensky's book is extremely informative and concentrated and contains a wealth of facts and clinical data. It distinguishes itself by clarity of thought and sharpness of definition. The author shows considerable scholarship and a profound knowledge of all psychiatric currents in Central Europe, France and America, as well as of Pavlovian psychiatry, from which the book contains ample material.

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synthesis of the vast amount of recent experimental and theoretical literature. The volumes can be read independently. They are well written and well thought out. Every major statement is supported by evidence from numerous experimental findings from the most diverse camps. He has integrated various sources of information in a highly systematic way. The volumes provide an excellent review of the literature. Even to the galley proofs, the author added new experimental evidence. One gets the picture of an exciting adventure in ideas which never ends.

The model on which Mowrer's thinking is based is a mechanical one, having its analogue in modern developments in cybernetics. While he rejects teleology, he believes that behaviour is purposeful in the way that the behaviour of complex, automatic, self-regulating machines is purposeful. The continuous adjustments that occur within the human organism on all levels are for the purpose of maintaining homeostasis.

His theoretical junction is between that of Hull and of Tolman (whom he greatly admires).

Learning Theory and Behaviour consists of a historical and developmental exposition of behaviourism. The two main schools, that is, those of Pavlov and Thorndike, are reviewed. In lucid, step-by-step fashion Mowrer builds up the case for his revised two-factor theory of learning, drawing extensively on numerous experimental studies to support his position. Mowrer no longer sees learning as two-factored on the basis of autonomic fear conditioning and instrumental habit formation. All learning is now a matter of conditioning, i.e., sign learning. His theory remains two-factored only because he postulates basically two different kinds of reinforcement processes. His argument culminates brilliantly in chapter 7 with a novel interpretation of the phenomenon of habit as facilitation of behaviour depending on the conditioning of the "feedback of hope." Habits are, therefore, not dependent upon increased conductivity between S_d-R_1 but upon increased conductivity between stimuli which are produced by R_1 and the phenomenon of secondary reward or hope.

Mowrer states that meanings, emotions and interpretations which become attached to particular situations or stimuli are basically reflexive (involuntary, autonomically mediated). Nevertheless, he insists that the organism is capable of choosing, selecting and directing his behaviour. Choice is possible because what is learned (conditioned) is not a specific S-R bond (brain-to-muscle pathway) but an emotion (hope, fear, relief, disappointment). An

LEARNING THEORY AND BEHAVIOR. pp. 555, \$6.95. LEARNING THEORY AND THE SYMBOLIC PROCESSES. pp. 473, \$8.50. By *Hobart O. Mowrer*. (New York: John Wiley and Sons, 1960.)

These two volumes are a comprehensive attempt to present a systematic behaviour theory which the author hopes will effect a broad

emotion is operationally defined as a conditioned response to primary drive increment or decrement (fear or hope). Its function is to motivate and to select on the basis of the informational feedback from the senses, whereas primary drive increments and decrements reinforce, *i.e.*, mediate learning. "Therefore learning . . . must be more a matter of control, of coming to *want* or *not want* to make a particular response, than of capacity. It is only the relative *attractiveness* of the response, it seems, that is altered by learning; and *this* alteration is unequivocally assumed to be neurologically based" (p. 221). (However, Mowrer does not make it clear whether this is a central or a peripheral phenomenon.) It follows from this that "a given behaviour sequence once set in motion is not ineluctably determined, but is, rather, subject to continuous modification on the basis of the 'meaning of the situation' and it is sensed or perceived from moment-to-moment. In other words, behaviour is a continuous, ongoing function of the informational feedback from *all senses*, internal and external" . . . (p. 309.)

The exposition of *Learning Theory and the Symbolic Processes* is provocative and fascinating because essentially it breaks new ground in offering the concept of mediation to bridge the gap between animal learning where signs are the mediators and human learning where symbolic processes are the mediators. Mowrer's first task is to show that images are the cognitive and representational part of the meanings which words come to possess. The child learns to repeat words for the autistic gratification it gives him—since the words are connected with positive reinforcement. However, language is only effective instrumentally in the presence of another organism who is now expected to carry out the needs of the individual speaking the words. The sentence is therefore a conditioning device. Its chief function is to produce new associations, new learning just as any other paired presentation of stimuli may do. It is obvious from this that reality which is not present can be represented by images, concepts and symbols. The reality of images, once established, accounts for the phenomenon of memory and imagination. Since what is learned by the organism is primarily emotional and not S-R bonds, a particular behaviour is willed or chosen "because its image, or anticipated occurrence, arouses hope; whereas its nonoccurrence or incorrect occurrence arouses no hope, or even fear. There is presumably, as James implies, a kind of *scanning* of various possibilities which occurs in

connection with response selection; and here symbolic behaviour plays the crucial role" (p. 286). The most exciting chapter of the second book is chapter 7, entitled "Learning Theory, Cybernetics and Consciousness." It is here that Mowrer makes clear how choice operates and in what sense behaviour is flexible and free. The rest of the book deals with problems that attempt to show the probabilistic nature of learning and of reinforcement. Mowrer's position is that "if life were *not* chancy, *learning* would be unnecessary" (p. 331), but since it is, the genuine causal relationship (which is the goal of science) is a matter of probability. It can be established through the principle of learning by contiguity on the basis of repetitive occurrences ". . . living organisms must be capable of learning 'the causal texture' of an environment, not only when cause-and-effect relationships are uniform and consistent, but also when they are irregular and inconsistent; *i.e.*, under conditions wherein reinforcement is not certain but merely more or less *probable*" (p. 333).

The last chapter on social learning explores the problems of social conditioning in animals and in humans. The pathology of thought is considered in terms of image and emotion; ". . . for an individual to 'know what it is all about,' a conditioned stimulus must arouse not only the appropriate affect but also a proper image or memory of the unconditioned stimulus. If the affect occurs but the image does not, we have the prototype of what 'disproportionality of affect' which is said to be the hallmark of psychopathology" (p. 412).

Mowrer also attempts to explore the question of conscience (internalization of right and wrong) and moral responsibility. While this last chapter may be described as the most doubtful part of the book from a theoretical and experimental point of view, it is, nevertheless, a courageous and highly admirable attempt. "Any account of human motivation and personality that ignores the 'moral strivings' of man is grossly incomplete and, by that very fact, misleading and dangerous" (p. 395). One can disagree with Mowrer's interpretation of "moral strivings" but the introduction of the concept of moral responsibility appears to be timely.

Mowrer's position may be summarized in his own words. "The whole thrust of revised two-factor learning theory has been to reintroduce the problem of choice (where it had been quite abolished by the reflexology of Pavlov and the stimulus response 'bonds' of Thorndike); to show that hopes and fears

(which are the dynamic conditioners of choice) themselves imply not only 'probabilities' but also the nature and magnitude of risks (promises and threats); and to provide, generally, a conceptual and explanatory framework of scope and power" (p. 319).

One certainly gets the feeling that the need to put "free will" or choice back into the interpretation of human behaviour, as opposed to determinism, has been the main motivating force of Mowrer's theoretical position; and he has succeeded convincingly in putting this across. The two volumes are certainly an admirable and significant contribution by an original thinker and a thorough-going scholar. In a hey-day of theories erected upon, and dealing with, fragmented bits of behaviour, it is gratifying to this reviewer to find here the old-time systematizing.

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GESELLSCHAFT, KULTUR UND PSYCHISCHE STÖRUNG. (Society, Culture and Psychic Disturbance.) By *Jakob Wyrsh*. (Stuttgart: Georg Thieme Verlag, 1960, pp. 120.)

This well written monograph is, apparently, designated for the lay reader. That explains its attractive popular style. The author struggles frequently with psychiatric definitions. For our "mental diseases," the German uses "geisteskrankheiten," i.e., diseases of the "geist," "geist" meaning: ghost, daemon, spirit, mind, intellect, etc. The analysis by the author of this term and its ramifications creates a great deal of confusion. Quotations from Hippocrates, Aristotle, Thomas Aquinas, Nietzsche, Lombroso, Bleuler, Mann and others do not make it clearer.

Human progress has its negative aspects too. We reduced infectious diseases, but arteriosclerotic conditions, unknown to primitive civilizations, are on the increase. With longevity the psychoses due to aging have become more frequent, though their interrelationship is still uncertain. Contrary to our anticipation, both World Wars did not increase the incidence of mental diseases. Exogenous psychoses as a result of alcoholism have diminished, primarily, because of alcohol control, while neurological and psychotic involvements due to lues have almost disappeared, thanks to medical progress.

The author quotes verbatim the ramblings of confused patients, with their incoherent and neologistic material, illustrating their distorted inner world. He notes particularly their regression to an infantile vocabulary.

Dr. Wyrsh discusses various therapies in-

cluding art, and believes that the art of the surrealists and schizophrenics can hardly be distinguished, one from the other.

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ELECTRICAL STIMULATION OF THE BRAIN.

Edited by *Daniel E. Sheer*. (Austin, Texas: University of Texas Press, 1961. \$17.50.)

This volume will prove a useful tool to the active investigator, and an informative text for those who desire a knowledgeable outline of this field of endeavor.

Those chapters devoted to the description and results of experiments are readable and cover thoroughly the subject. A more elaborate presentation of this material would seem superfluous.

The earlier chapters devoted to techniques in construction of electrodes, and more particularly those concerning the character of function of the instrumentation are most useful. One might suggest that even more consideration could have been given to this area; for example, the physical properties of the metals used in electrodes and electronic circuitry involved in stimulators are important facets of any experiment concerned with stimulation of the brain.

In summary, the editor and authors are to be commended for producing a most valuable addition to the library of the experimental neurologist.

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PLAINVILLE FIFTEEN YEARS LATER. By *Art Gallaher, Jr.* (New York: Columbia University Press, 1961, pp. xvi + 301. \$5.00.)

In 1945 James West (Carl Withers) published a book entitled *Plainville, U. S. A.* That book presented a study of a relatively isolated American agricultural community, as seen through the eyes of an anthropologist. The present work is an independent re-study of the same community fifteen years later. It is a most revealing study, and shows, I believe, the general trend in the United States, where agricultural communities are increasingly coming under the influence of the cities, with all the social and psychological changes that this involves. As a study in social change this volume constitutes a valuable contribution which will have great practical value in facilitating the untraumatic transition from rural to suburban and urban existence.

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IN MEMORIAM

CARNEY LANDIS

(1897-1962)

Carney Landis, Chief Research Psychologist at the New York State Psychiatric Institute and Hospital, died on March 5, 1962 after a long and trying illness during which he kept up his lifetime pattern of work. Not a man of strong physique and often plagued by illness, he set a pace in his laboratory that few could equal. He first came to the Psychiatric Institute as Research Associate in 1930 in the rapidly developing pattern of appointing associates from those scientific disciplines allied to medicine. A man of insatiable curiosity and tremendous drive, his research touched every area of psychopathology. In his more than 30 years at the Institute he established an international name for himself in the field of psychopathology and added immeasurably to the growing lustre of the Institute's research reputation.

Landis was born on January 11, 1897 in West Alexandria, Ohio. After a brief stay at Carnegie Institute of Technology he shifted to Ohio State University where he majored in psychology and received his A.B. in 1921. He was granted the M.A. from Dartmouth College in 1922 while teaching as an instructor in psychology. Immediately thereafter he transferred to the University of Minnesota where he obtained his Ph.D. in 1924. Following this he spent two years as a National Research Council fellow, the first at Minnesota, followed by a year at the University of London. In 1926 he was appointed Assistant Professor of psychology at Wesleyan University in Middletown, Conn., and was promoted to Associate Professor in 1928. The invitation to the Psychiatric Institute came in 1930 and Landis left Wesleyan to remain in New York the rest of his life. He had a coordinate appointment as Professor in the department of psychology at Columbia University and this satisfied whatever academic leanings he had. There were brief teaching visits to Harvard, the University of California at Los Angeles, and the

University of Washington. These were pleasant interludes, but Landis preferred the freedom and the research resources of his laboratory at the Institute. In 1948 he made a visit to Colombia on a teaching and service mission and was awarded the honorary degree of Doctor of Science from the University of Antioquia in Bogata.

As an undergraduate at Ohio State he had been influenced by the prevalent behaviorism of Weiss; and J. B. Watson and K. S. Lashley added their influence at a later date. Yet it would be a mistake to call Landis a behaviorist in any narrow sense. His empiricism went deeper than that. To him, as to so many of his psychological contemporaries, formal behaviorism was but one surface manifestation of the deeper conflict between the purely rational and the experimental approach. He saw no need to deny consciousness as a phenomenon, and introspection as an experimental method had a place in his investigations, but the ultimate criterion for truth always remained the experimental confirmation of hypotheses under controlled, objective conditions. His laboratory empiricism was complemented by an insistence on careful and complete bibliographical investigation, and by a lifelong fascination with elaborate instrumentation. Complicated apparatus not only epitomized for him the ultimate in objectivity of observation and recording, but it satisfied the universal male desire for intricate gadgets. Whatever the problem under investigation his laboratory was always equipped with the latest and most efficient mechanical devices available.

His rigid laboratory empiricism demanded that he be eclectic in his theoretical affiliations. For him truth could never submit to any narrow, systematic restrictions. It also meant making professional enemies as well as friends, for he soon discovered one of the uncomfortable truths of an honest eclecticism—the teaching eclectic can be comfortable and happy for he can

preach the best of his friends' contributions, but the eclectic experimenter is doomed to some discomfort and unhappiness for he must investigate and uncover many of his friends' errors.

Some of this was reflected in Landis' relations to psychiatry. The weight of Landis' contribution to experimental psychopathology tended to minimize his experience in the service aspects of clinical psychology, yet he had done psychotherapy as well as studied it. He was no enemy of psychotherapy; but he was often classed as such, because of his insistence on the fact that there is as yet little if any experimental evidence of its efficacy, and because of his firm belief that faith, in and of itself, cannot be the basis for a science of medicine. To the timid therapist who would protest that the delicate processes of psychotherapy should not be exposed to the blunt instruments of contemporary scientific investigation, he would answer that overfeeding at the sympathetic fountains of unlimited faith might be equally damaging to their development.

His attitude toward psychoanalysis reflected the same conflict, a conflict typical of his generation of psychologists. There was a beginning excitement about and enthusiasm for the dynamic insights of psychoanalysis, a realization of their necessary complementation of the previously largely organic orientation in psychiatry, followed by an increasing disillusionment with some of the verbal (theoretical?) excesses committed in its name. To this disillusionment Freud's open antiexperimentalism was a major contributing factor. Landis could be sympathetic to psychoanalysis, as he was in pointing out in 1935 the relative neglect in textbooks of abnormal psychology of psychoanalytic doctrine; and he could be cruel, as he was in 1940 in saying of the average psychiatrist that "he has no adequate knowledge of scientific reporting, no comparable technical vocabulary, and but the vaguest ideas of scientific logic."

His own analysis was undertaken in large part because of a genuine, scientific interest. Granted that no analysis is begun or continued on a purely didactic basis, he entered on analysis in a spirit of honest inquiry. Analysis is one situation in which distance

does not lend enchantment, and there seems to be an inverse relation between the analyst's enthusiasm and the subsequent passage of time. But a remark of Landis' at the time points up a universal dimension of psychotherapy. When teased by the comment that his analysis had revealed nothing about himself that his friends had not already pointed out, his reply was, "That may be true, but it is different when you tell it to yourself."

Carney Landis was not by nature a theoretician. He was too busy reporting observable phenomena to find time for filling in the systematic gaps in the relationships between his data. His one major venture into systematics was a disappointment to him. In 1947 in the *Journal of Comparative and Physiological Psychology* he published a paper on "A Modern Dynamic Psychology," originally presented in a symposium sponsored by the American Association for the Advancement of Science. It is a timeless, beautifully stated exposition of the eclectic position in which he deals with behavior as resulting from the interaction of heredity, constitution, and environment. It is closely reasoned, eminently fair, and not without humor when he describes delirium tremens as "a condition which may be said to depend largely on maturation and exercise with but little evidence of an hereditary component"; yet it never received the attention Landis felt it merited, no doubt because the sweet reasonableness of the eclectic position attracts neither the press, the historian, nor the fanatic adherent in search of a cause.

Despite the paucity of his systematic and theoretical writing, his productivity in research had an important impact upon the mental health sciences. His early concentration upon the electrophysiological phenomena of the body helped to bring methodological sophistication and maturity to a field which sorely needed it. Following his publication with Page in 1938 of *Modern Society and Mental Disease* there was no further excuse for the naive manipulation and misinterpretation of the statistics of mental disorder which had been common practice until then. This was but one example of his life-long interest in and support of the emerging sciences of biometrics and

epidemiology. His work on the development of biographical inventories as a diagnostic technique was pioneering in a method now firmly established as a standard selection procedure since World War II. His work with Mettler on the Greystone project in psychosurgery and his later work on flicker fusion and in pharmacology all helped to further the understanding of the physiological substrate of behavior which he as an eclectic felt to be an important complement of the dynamic, environmental factors so popular at the time.

It would be impossible here to list all his interests and accomplishments. His textbook with Bolles in 1950, *Abnormal Psy-*

chology, was a landmark in the field of experimental psychopathology. At his death he was preparing a new book for publication, *The Varieties of Abnormal Experience*. In evaluating his influence one cannot overlook the sympathetic encouragement he gave so many of his younger colleagues and his ready assistance to all those dedicated to the research investigation of mental disorder no matter what their special area of interest might be. Our memories of Carney Landis as a man may dim with time, but the cumulative weight of his scholarship will be felt in the field of experimental psychopathology for generations to come.

William A. Hunt

REACTION TO EXTREME STRESS : IMPENDING DEATH
BY EXECUTION¹HARVEY BLUESTONE, M.D., AND CARL L. MCGAHEE, M.D.²

We conventionally think of death as "the worst thing" that can happen to us. Knowing, as we all do, that we will die in some vague future does not impose any great stress. The man in the grip of a relentlessly fatal disease has to cope with much more severe stress. But mercifully, his death date is not fixed and he can always hope to see tomorrow's sun rise. Presumably, the greatest of stresses would be imposed on the man who knows he is going to be put to death—and knows just when that will be.

We have studied 18 men and one woman in the Sing Sing death house. Because of the inmate utilizing opportunities for appeals for clemency or commutation there is adequate time for repeated psychiatric interviews and psychologic examinations.

These men are housed in an area detached from the rest of the prison. They have few visitors, though the authorities impose no restrictions on visiting. One might expect them to show severe depression and devastating anxiety, yet neither symptom was conspicuous among these 19 doomed persons. By what mechanisms did they avoid these expected reactions to such overwhelming stress? Do their emotional patterns change during a year or two in a death cell? And, do these defenses function to the moment of execution—or do they crumble towards the end?

The 19 histories had certain features in common. All had come from deprived backgrounds. All but one came from homes where the father was missing (deserted, dead, unknown, or separated) during the childhood or adolescence. Practically all had been brought up (during their growing years) in institutions or foster homes. Not one had an education better than that of tenth grade. Some were illiterate. Their intelligence varied from an IQ of 60 to one

with an IQ of 140. All had been convicted of murder. None of the murders was long planned: they were impulsive. Many were committed in connection with a felony. The world appeared as a hostile, dangerous, and menacing place, and they had reacted in their way—by aggression, suspiciousness and cynicism.

The following are brief summaries of the reaction of some of these men to their imprisonment in the death house. (For collective data v. Table 1.)

1. This man has the longest residence in the death house of those in this study, approximately 2 years. An overt confirmed homosexual, he maintained a calm conviction that he would be ultimately pardoned. This belief remained bolstered throughout by an unchanging contention that he had been framed by the legal and medical authorities involved in his prosecution. Psychological testing showed a man of average intelligence with considerable withdrawal from real emotional interaction with others. Defense mechanisms of denial and projection were effective in warding off anxiety and depression despite prolonged incarceration in the death house.

2. This inmate is the only woman in this series. She is of dull intelligence, acts in a playful and flirtatious manner. She was usually euphoric, but became transiently depressed when she thought her case was going badly. She frequently complained of insomnia and restlessness. These symptoms quickly disappeared when she was visited by a psychiatrist whom she enjoyed seeing and talking to in a self-justifying and self-pitying manner. Psychological tests showed pervasive feelings of insecurity, repressive defenses, and an inability to handle angry and aggressive feelings in an effectual manner.

3. This inmate is a withdrawn, sullen, uncommunicative individual. When visited in the death house he would elaborately and slowly wash his clothes ignoring examiners. He spends much of his time reading profound philosophical works which are beyond his comprehension. His intelligence is dull-normal. He has become

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² New York.

TABLE 1

1. Age range of death house prisoners	
18 or younger	1
19 or 20	2
21 through 25	5
26 through 30	3
30 to 35	5
over 35	3
2. Family background	
Parents together during most of childhood	1
Father unknown or deserted	7
Father divorced or separated	10
Father and mother unknown	1
3. Highest school grade reached	
Fourth or lower	4
Fifth or sixth	8
Seventh or eighth	2
Ninth or tenth	5
4. Intelligence Quotient	
60 through 69	2
70 through 79	5
80 through 89	7
90 through 119	4
120 through 140	1
5. Family status of prisoner as adult	
Never married, but had common-law spouse	5
Never married, no regular consortium	11
Married but separated	2
Living with wife	1
6. Psychological defense mechanisms used	
(Totals more than 19; some used more than one)	
Denial by isolation of affect	7
Denial by minimizing the predicament	4
Denial by delusion formation	1
Denial by living only in the present	4
Projection	7
Obsessive rumination in connection with appeals	3
Obsessive preoccupation with religion	2
Obsessive preoccupation with intellectual or philosophical matters	5

progressively more suspicious and grandiose during his death house stay.

4. This man gives a long history of delinquent behavior. He is a litigiously minded individual who states that he can appeal his case for years. He is obsessed with his own power and is convinced that a law suit against the district attorney for lost automobile tools kept that official from being reelected. He has become progressively more angry and abusive ultimately necessitating his physical isolation from other inmates. His IQ is 134. Projective tests show a chronically cold, withdrawn, narcissistically invested personality. Withdrawal, projection and denial are prominent defense mechanisms.

5. This man is at all times euphoric. He has shown little anxiety during the full year he has spent in the death house. He has led a hedonistic life and has never been able to make future plans. His inability to see beyond the day seems quite effective in enabling him to avoid anxiety and depression.

6. This inmate showed during his early months of incarceration a contemptuous indifference toward the authorities and his own plight. Gradually, however, depression appeared and became progressively more intense. This was rather dramatically reversed when the inmate presented an apparent religious conversion, which seemed to both occupy his mind and also elevate him above the authorities and his situation. However, this defense was only partially successful for this individual who had a life-long history of discharging all tensions by immediate impulsive acting-out. Psychological testing showed dull-normal intelligence and a primitive, self-absorbed, hostility-ridden personality.

8. This inmate related to examiners in an open and direct manner. He is mentally dull and preoccupied with thoughts of voodoo spells. His primary defense mechanism is denial of the possibility of being executed. This works poorly and he is chronically anxious and periodically depressed. His anger at his accomplice, who he is convinced is the cause of his difficulties, seems to relieve him of some of his unpleasant feelings. He amuses himself in working on a taunting poem which he proposes to recite when his accomplice is executed. This mechanism, too, is ineffectual and he reverts from these thoughts of revenge to a contemplation of his own plight.

9. This man is a moody individual who feels he is the victim of a Jewish plot since the judge, district attorney, and his own court appointed lawyer are Jewish. He denied his guilt repeatedly during his early days in the death house, but became progressively more confused and a few days before his scheduled execution asked the examiner for truth serum so that he would know whether or not he committed the crime. He showed alternating use of introjection and projection. He would become depressed when news of his appeal was bad, and when a stay of execution was granted he became paranoid and grandiose. He managed in some obscure way to identify his impending death with that of Lumumba, who had recently been killed in the Congo, and felt that his own execution would make him a martyr in the cause of anti-imperialism.

10. This man stands out in the series as being the one who most successfully employed

intellectualization as a means of defending against anxiety and depression. He elaborated a philosophy of life and values in which his own criminal career became not only justifiable, but even respectable. He rationalized his crimes by emphasizing the hypocrisy and perfidy of society on the one hand and by comparing himself with policemen and soldiers and others who live honorably "by the gun" on the other. This system was so effective for him that even when execution appeared imminent he maintained his hero's martyr role and disdained to request executive clemency.

11. This inmate is an illiterate, inadequate individual who was convicted as an accomplice to a robbery-murder. He had an overall IQ of 51. He showed primarily depression, withdrawal, and obsessive rumination over the details of his crime and conviction. He eventually evolved a poorly elaborated paranoid system whereby he supposedly was betrayed and framed by his girl friend and one of the co-defendants. Despite the looseness of his persecutory thinking, it was accompanied by a clear-cut elevation in his mood and reduction of anxiety.

12. This inmate, also an accomplice to a robbery-murder, showed one of the most florid pictures of any in this series. Both grandiose and persecutory themes were prominent, but the latter predominated. He maintained that his arrest and conviction were malicious frauds, and he meticulously and obsessively combed through the court record to substantiate his contentions. His arguments were labored and illogical, hinging on such points as the use of words like "who" and "whom." The paranoid mechanisms seemed to mitigate, but not completely defend him against depression.

13. He is one of the two inmates in this series who uses religious preoccupation as his major defense mechanism. He repeatedly in an almost word for word way stated his situation as follows. "No one can understand how I feel unless it happened to you. Christ came to me and I know He died for my sins. It doesn't matter if I am electrocuted or not. I am going to another world after this and I am prepared for it." As his stay progresses he becomes increasingly more hostile and antagonistic, and his behavior progressively out of keeping with his professed religious ideas. In addition to obsessive rumination, projection and withdrawal are employed to ward off feelings of anxiety and depression.

DISCUSSION

Faced with certain and ignominious death, a person would presumably be over-

whelmed with anxiety or plunge into the depths of depression. Yet this does not happen. What defense does the human mind set up against intense anxiety or a paralyzing depression? We suggest, on the basis of our 19 case studies, that the defenses are of mainly three types—denial, projection and obsessive rumination. The commonest form of *denial* is isolation of affect. "So, they'll kill me; and that's that"—this said with a shrug of the shoulders suggests that the affect appropriate to the thought has somehow been isolated. A second common form of denial is to minimize the gravity of the present situation and to take for granted that an appeal will be successful. The third and most extreme manifestation of denial, used by only one individual, was to delusionally believe that a pardon had been granted. Denial is also commonly used by persons dying of disease.

There is another phenomenon which deserves further explanation, since it may easily be confused with denial. Several cases impressed the examiners as being so immersed in the present moment as to virtually be insulated from any significant emotional relatedness with their own past or future. Thus, they do not have to deny anxiety since they do not experience it. This, incidentally, is the traditional profile of the "psychopath" who reacts only to present stimuli.

Projection is an obvious, and not uncommon, mechanism. Typically, it takes the form of persecutory delusions. At least three of our prisoners considered themselves persecuted by specific groups in the community. This mechanism converts dissolute criminals into martyrs. It is a comforting delusion. While it does not deny that death is just around the corner, it tries to lend it dignity and meaning. In some men there seems to be an almost quantitative reciprocal relationship between the use of projection and introjection so that they are either overly paranoid or depressed.

A third way of coping with painful affects is to *think furiously* about something else. Thus, the depressing thought is elbowed out of consciousness by the crowd of other ideas. We see this in a morbid obsessional concern about the preparing of appeals or pleas for clemency. One prisoner spoke to

us for an hour about whether a pronoun in the appeal transcript should be "who" or "whom." To be sure, a meticulous concern with the appeal brief is rational; in these cases, however, the concern is obsessional, ruminative and ineffective. Another type of obsession (two of the men showed this) is preoccupation with religion to the exclusion of everything else. The prisoners who developed this syndrome had involved their confederates in death sentences too, though neither accomplice had killed anyone. Presumably, this religious conversion served to blunt guilt feelings about involving the accomplices. This activity served two other purposes: it distracted them from anxiety, and it offered a route to a happy life in the hereafter. The third type of obsessive rumination is the intellectual: a dipping into philosophical thought by a man whose life had hitherto been devoted to hedonistic pursuits.

Some try desperately to mould a respectable image of themselves. This is certainly one sluiceway for draining out anxiety—as illustrated, for example, in the way in which one of the prisoners identified himself with

Lumumba and the recent world shaking events in the Congo.

The group support these men receive from fellow inmates is variable. Some are quite appealing and receive considerable emotional and even material support in terms of cigarettes and help with their correspondence. Others manage quickly to antagonize their fellows and are in turn ridiculed and tormented by them in a direct and sadistic manner. This is often true when a man gets the reputation of being a malingerer. The inmates are quite antagonistic to anyone they feel is falsifying religious beliefs or feigning mental symptoms.

CONCLUSION

Traditional ego defense mechanisms alleviate distress. They also mitigate anxiety and depression which would otherwise overwhelm the prisoner in a death cell. Some psychiatrists allege that the death fear (whether on the battlefield or in the death house) serves as an irrational surrogate for some other fear—such as castration. This over-simplified explanation does scant justice to the inescapable certainty shared by all, but anticipated only by man.

SELECTED PERSONAL AND FAMILY DATA ON 400 PSYCHIATRIC INPATIENTS

IAN GREGORY, M.D.¹

There are at least three types of information that may be provided by data such as those analyzed in the present study. *Firstly*, they may cast some light on the validity of clinical diagnosis in psychiatry—the extent to which such diagnoses represent valid distinctions between different categories of psychiatric patients. *Secondly*, they may constitute one approach to testing the etiological hypotheses that certain categories of psychiatric disorder are determined predominantly by hereditary endowment and that other categories are determined predominantly by environmental influences. *Thirdly*, they may reveal associations between objective criteria of environmental influence and various diagnostic categories, and hence may provide leads to further research regarding the nature and specificity of environmental influences in the etiology of different psychiatric disorders. It is nevertheless necessary to emphasize that the method of analysis employed here gives no indication of the relative contribution of hereditary and environmental factors in the overall determination of psychiatric disorders, but only on possible *differences* in the contribution of such factors to the etiology of specific syndromes based on clinical diagnosis.

The present author has recently discussed certain studies and viewpoints relating to the validity of clinical diagnosis in psychiatry(6). It may, however, be appropriate to review briefly the results of two such studies that have been reported. The first of these was undertaken in Massachusetts over 30 years ago and involved comparisons of the diagnoses made on the same patients when they were in Boston Psychopathic Hospital and when they were in various Massachusetts state hospitals. Such data were recorded for 1,177 patients, and the degree of diagnostic agreement (among 20 categories of diagnosis) was found to be

approximately 70%. Gruenberg has pointed out that the discrepancy between diagnoses on these patients was about the same order of magnitude as has been found between clinical diagnoses in medicine and autopsy findings(7). Another study along the same line was undertaken a few years ago by Norris(10), who compared the clinical diagnoses made on patients in psychiatric observation units in London, England, and subsequently following their admissions to mental hospitals. Her sample involved over 6,000 patients, and the overall agreement in diagnoses (among 13 diagnostic categories) amounted to approximately 60%. In view of such discrepancies, some psychiatrists have advocated a unitary concept of mental illness(9) according to which all mental illness represents a single abnormality, whose manifestations vary quantitatively rather than qualitatively, are all likely to be helped by the same kind of treatment, and do not differ essentially in their causation. The contrary viewpoint is that specificity in effective treatment, accurate knowledge of causation and logical preventive measures should be based on clarity of diagnostic criteria.

The validity of testing genetic hypotheses by searching for environmental factors has been pointed out by Penrose(11) who remarked,

Modern psychiatric teaching emphasizes environment from early infancy as a decisive factor in determining mental breakdown. Objective evidence for environmental factors is difficult to obtain but many obvious avenues for research have been neglected, such as the study of the effects of the birth order and of maternal age on psychotic reactions. Analysis of variation of abnormal mental traits within families and especially within sibships would prove of interest from the environmental standpoint. Not all investigations which set out to investigate genetical causes demonstrate that these are the most significant factors. Results which are largely negative from the genetical point of view are of special value because we can search with renewed zeal for environmental influences.

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McKeown and Record have since discussed maternal age and birth order as indices of environmental influence(8), and the present author has attempted to analyze data on these and other objective indices in the case of psychiatric patients(2-5).

Adler emphasized the unique position of the individual within his family of orientation, and made various assertions concerning the supposed vulnerability of certain ordinal positions(1). Numerous other authors added their own clinical impressions, and many unsuccessful attempts have been made to establish consistent statistical associations between ordinal position and temperamental characteristics or vulnerability to psychiatric disorder. However, the statistical problems involved have not always been recognized, and the interpretation of positive findings still remains in doubt. Sears has provided interesting data on differences in child training practices related to the sex and ordinal position of the children(12), but the significance of such findings in relation to adult psychiatric disorders has not been demonstrated. Similarly, differential patterns of childhood experiences, related to such objective events

as parental death or desertion, have not hitherto been found consistently correlated with the development in adult life of specific patterns of psychiatric disorders.

METHOD

In previous articles, the present author has reviewed a number of studies relating to parental deprivation, parental age, family size, birth order and ordinal position, among various groups of psychiatric patients; and has subjected to further analysis certain data previously recorded by other investigators(2, 3, 5). In another article, considerable data of this nature were abstracted from the hospital records of 1000 patients born during a 30-year period and admitted to a single mental hospital during a specified period of time. The age of these patients on admission was approximately 20 to 50 years, and they were divided into 10 diagnostic categories, comparisons being made between different diagnostic groups and, where possible, also the general population from which they were drawn. Since the data were obtained, however, from histories recorded routinely in hospital files shortly after the patient's admission to hospital by

TABLE 1
Diagnosis and Sex of 400 Psychiatric Admissions to University of Minnesota Hospitals

DIAGNOSIS	MALE	FEMALE	BOTH SEXES
Acute brain disorders	3	4	7
Chronic brain disorders	8	9	17
Mental deficiency	1	1	2
Involuntional psychotic reaction	4	6	10
Manic depressive reaction	6	12	18
Psychotic depressive reaction	7	15	22
Schizophrenic reaction, paranoid type	21	33	54
Schizophrenic reaction, other types	23	39	62
Paranoid reactions	2	3	5
Psychophysiologic disorders	2	4	6
Psychoneurotic depressive reaction	20	62	82
Psychoneuroses, other types	7	34	41
Sociopathic personality	19	9	28
Other personality disorders	13	35	48
Observation, psychiatric		4	4
All diagnoses	134	266	400

different members of the staff, it was inevitable that certain information recorded in many of the files would be absent from others. As was also inevitable in using this type of information, there were other items of interest that were recorded relatively infrequently.

For the purpose of the present investigation, therefore, it was decided to obtain selected personal and family data by means of special forms containing a standardized series of questions, to be answered in detail for as high a proportion as possible of a selected group of psychiatric patients. The group of patients selected for study were all those admitted to the adult psychiatric wards of the University of Minnesota Hospitals, and also assigned directly to the care of one of the first year residents in psychiatry under the supervision of a staff psychiatrist. During a period of almost two years, commencing in Oct. 1959, 449 such patients were admitted, and completed forms obtaining the necessary personal and family data were returned on 400 of these patients. The present article is concerned with an analysis of the data recorded on the 400 forms.

The clinical diagnoses on these patients conformed with the standard nomenclature, and were made by the psychiatric residents in consultation with supervising staff psychiatrists. The diagnoses were made at the time of discharge from hospital for all patients with the exception of those who were still on the psychiatric service at the termi-

nation of data collection. The sex distribution for 15 major categories of diagnoses is shown in Table 1.

In view of the small numbers of patients in certain categories, certain of these were combined for purposes of analysis, and the mean age on admission for 9 major diagnostic groups is shown in Table 2. It was further considered that the 2 smallest of the latter groups (brain disorders and mental deficiency, with 26 patients; and observation only, with 4 patients) would best be excluded from the final analysis, and the latter therefore involves only the 370 patients in the 7 remaining diagnostic groups.

In previous studies the present author has attempted to find deviations from statistical expectancy for selected characteristics (*e.g.*, parental deprivation, parental age, birth order, ordinal position) among patients with various psychiatric diagnoses. In the present study the numbers of patients in any major diagnostic category are too small to permit of this approach, and the reverse procedure has been applied—namely, testing for deviations in statistical expectancy of the 7 major diagnostic groups, among all patients having a given characteristic. The significance of deviations from statistical expectation has been measured by means of chi square and the results are presented in Table 3 (for primary characteristics of patients), Table 5 (for characteristics involving their parents) and Table 6 (for characteristics involving their sibships).

TABLE 2
Number of Patients and Mean Age on Admission,
Among Nine Diagnostic Groups (400 Patients)

DIAGNOSIS	NUMBER OF PATIENTS	MEAN AGE ON ADMISSION
Brain disorders and mental deficiency	26	48.6 years
Affective psychoses	50	45.9 years
Paranoid schizophrenia and paranoid states	59	35.4 years
Schizophrenia, other types	62	27.4 years
Neurotic depressive reaction	82	42.6 years
Neuroses, other types, and psychophysiologic disorders	41	33.7 years
Sociopathic personality	28	30.6 years
Other personality disorders	48	25.4 years
Observation only	4	23.2 years
All diagnoses	400	36.0 years

RESULTS

The primary characteristics of patients and their homogeneity among the 7 diagnostic groups are shown in Table 3. The most significant deviations from the mean (for all groups combined) were shown with respect to *age*, being related to the advanced age of many patients with affective psychoses and neurotic depressive reactions, and the youthfulness of many patients with schizophrenia (other types than paranoid) and personality disorders (other than sociopathic). There was also a significant deviation from homogeneity with respect to *sex* distribution, which was almost entirely re-

the two youngest groups, and under-represented in the two oldest groups. In the case of *divorced or separated* patients among those who had ever been married, sociopathic personality was over-represented, whereas neuroses (types other than neurotic depressive reaction) were under-represented.

In order to determine the extent to which the lack of homogeneity with respect to the preceding characteristics might be related to the differential age distribution of patients in various diagnostic categories, *rank order correlation coefficients* were calculated between the mean age on admission among

TABLE 3
Characteristics of Patients and Their Homogeneity Among
Seven Diagnostic Groups (370 Patients)

CHARACTERISTICS OF PATIENTS	NUMBER OF PATIENTS WITH CHAR- ACTERISTIC	CHI SQUARE	DEGREES OF FREEDOM	STATISTICAL SIGNIFICANCE
Age (40 years and over)	124	74.85	6	$p < 0.001$
Sex (Male)	124	22.42	6	$p < 0.01$
Foreign born	22	9.55	3	$p < 0.05$
Education (8 years or less)	68	30.91	6	$p < 0.001$
Education (one or more years of college)	99	15.42	6	$p < 0.02$
Marital status (single)	125	53.33	6	$p < 0.001$
Marital status (divorced or separated, among ever-married)	44	16.73	6	$p < 0.02$

lated to reversal of the prevailing sex ratio (approximately two females to one male) in the case of sociopathic personality (with twice as many males as females). The total number of *foreign born* patients was small, and necessitated combined diagnostic categories, the probable significance of the results being attributable to an excess of observed over expected number of foreign born patients with affective psychoses. The significant deviation from expectation with respect to *education of 8 years or less* was related largely to an excess of patients with affective psychoses and neurotic depressive reactions (the two oldest groups). Among those with *one or more years of college education*, in this particular sample, there was a moderate excess of observed over expected patients with paranoid schizophrenia, other types of schizophrenia and sociopathic personality. With respect to *marital status*, *single* patients were over-represented among

different diagnostic groups and the percentage of patients in each diagnostic group having the characteristics shown in Table 3. These rank order correlation coefficients and their statistical significance are shown in Table 4, from which it is evident that education of 8 years or less was strongly positively correlated with age on admission, whereas single marital status was strongly negatively correlated with age on admission. Some of the other correlations with mean age on admission are suggestive, although they are much less marked in degree and not statistically significant.

Selected characteristics involving parents and their homogeneity among the 7 diagnostic groups, are presented in Table 5. In only two instances were there overall deviations from expectation which reached the level of probable statistical significance. Among *native born patients having one or both parents foreign born*, there was an ex-

TABLE 4
Rank Order Correlations Between Mean Age on Admission and Percentages of
Patients with Characteristics Shown in Table 3

CHARACTERISTIC	SPEARMAN'S RANK CORRELATION COEFFICIENT WITH MEAN AGE ON ADMISSION	STATISTICAL SIGNIFICANCE
Sex (male)	+0.38	N.S.
Foreign born	+0.37	N.S.
Education (8 years or less)	+0.92	$p < 0.001$
Education (one or more years of college)	-0.55	N.S.
Marital status (single)	-0.92	$p < 0.001$
Marital status (divorced or separated, among ever-married)	+0.40	N.S.

cess of observed over expected numbers of patients with affective psychoses and neurotic depressive reactions, as compared with a deficit of observed numbers of patients with schizophrenia (types other than paranoid) and personality disorders (other than sociopathic). The rank correlation coefficient with mean age on admission was +0.75 and reached the level of probable significance ($p < 0.05$), which would appear to reflect merely the higher rate of immigration around the turn of the century than

a generation later. On the other hand, the deviations from expectation of *patients with a history of parental suicide or admission to mental hospital* appear more directly related to the diagnoses of these patients. (The rank order correlation with mean age on admission being +0.18, and not significant.) There was an excess of observed over expected numbers of patients having a history of parental suicide or admission to mental hospital for schizophrenia (types other than paranoid) and for neurotic depressive re-

TABLE 5
Characteristics Involving Parents, and Their Homogeneity
Among Seven Diagnostic Groups (370 Patients)

CHARACTERISTICS INVOLVING PARENTS	NUMBER OF PATIENTS WITH CHAR- ACTERISTIC	CHI- SQUARE	DEGREES OF FREEDOM	STATISTICAL SIGNIFICANCE
One or both parents foreign born (among native born patients)	88	14.49	6	$p < 0.05$
Native born fathers with 8th grade education or less	125	8.85	6	N.S.
Fathers having less education than mothers	74	2.55	6	N.S.
One or both parents over age of 40 years at birth of patient	77	4.92	6	N.S.
Mothers older than fathers	31	5.33	6	N.S.
One or both parents committed suicide or admitted to mental hospital	40	12.67	5	$p < 0.05$
Father recorded as alcoholic	31	3.99	5	N.S.
One or both parents died before patient aged 10 years	27	5.13	5	N.S.
Other permanent separations from one or both parents before patient aged 10 years	34	3.36	5	N.S.
Father lost by death or other permanent separation before patient aged 10 years	49	6.51	6	N.S.
Mother lost by death or other permanent separation before patient aged 10 years	22	6.16	4	N.S.

action, as compared with a deficit of observed numbers of patients with other types of neuroses and personality disorders (other than sociopathic).

Selected characteristics involving sibships, and their homogeneity among the 7 diagnostic groups are shown in Table 6. On examination of this table, it may be seen that deviations from expectation only approached or reached probable statistical significance with respect to two of the characteristics studied. Both of these findings related to the *birth interval* between the patient and the sibling immediately preceding or following him, and both involve birth intervals of less than two years between the patient and this sibling. In the case of patients having a sibling less than two years *older* than themselves, there was an excess of patients with paranoid schizophrenia. Among patients having a sibling less than two years *younger* than themselves, there was an excess of patients with

sociopathic personality and other personality disorders.

SUMMARY AND CONCLUSIONS

The type of data analyzed in the present study may provide evidence concerning the validity of clinical diagnosis in psychiatry, a differential contribution of hereditary and environmental factors in the etiology of specific diagnoses, and association between objective criteria of environmental influence and various diagnostic categories.

Selected personal and family data were recorded soon after admission on 400 out of 449 consecutive psychiatric patients admitted to the University of Minnesota Hospitals and assigned to the care of residents under the supervision of a staff psychiatrist. The data on 30 patients (with diagnoses of organic brain syndromes, mental deficiency, or observation only) were discarded, and the data on the remaining 370 patients were divided into 7 major categories for purposes

TABLE 6
Characteristics Involving Sibships, and Their Homogeneity
Among Seven Diagnostic Groups (370 Patients)

CHARACTERISTICS INVOLVING SIBSHIPS	NUMBER OF PATIENTS WITH CHAR- ACTERISTICS	CHI- SQUARE	DEGREES OF FREEDOM	STATISTICAL SIGNIFICANCE
No siblings of either sex (patient an only child)	22	1.39	4	N.S.
No siblings of the same sex (one or more of the opposite sex)	84	8.17	6	N.S.
No siblings of the opposite sex (one or more of the same sex)	67	2.14	6	N.S.
No older siblings (patient the eldest)	86	4.47	6	N.S.
No younger siblings (patient the youngest)	72	2.13	6	N.S.
Patient immediately preceded and followed by siblings of same sex	36	1.70	6	N.S.
Patient immediately preceded by sibling of same sex and followed by sibling of opposite sex	48	3.56	6	N.S.
Patient immediately preceded by sibling of opposite sex and followed by sibling of same sex	43	5.03	6	N.S.
Patient immediately preceded and followed by siblings of opposite sex	57	0.83	6	N.S.
Immediately preceding sibling more than 5 years older than patient	41	5.42	6	N.S.
Immediately preceding sibling less than 2 years older than patient	55	13.82	6	$p < 0.05$
Immediately following sibling more than 5 years younger than patient	46	1.22	6	N.S.
Immediately following sibling less than 2 years younger than patient	67	11.69	6	$p < 0.10$

of analysis.

Primary characteristics of patients (particularly age, sex, education and marital status) showed a significant lack of homogeneity among the 7 diagnostic groups, giving some support to the validity of clinical diagnosis in psychiatry. At least it is evident that these diagnostic groups differ from each other significantly with respect to these characteristics, though it remains questionable to what extent they differ in their manifestations, etiology or response to treatment.

Most of the selected characteristics involving parents and sibships failed to show deviations from homogeneity among the 7 diagnostic groups, and hence provided little evidence concerning the influence of specific etiological factors in the development of specific diagnostic syndromes.

In patients with a history of parental suicide or admission to mental hospital, certain diagnoses were represented more or less frequently than expected on a random basis. However, this association between patient diagnosis and parental psychopathology may be related to either genetic or environmental factors.

The increased frequencies of certain diagnoses among patients with intervals of less than two years between themselves and their preceding or following siblings are suggestive of environmental influences in

the etiology of the diagnostic groups involved, but the findings in this relatively small and heterogeneous sample must be regarded as very tentative.

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THE NATURE OF PSYCHIATRIC RESEARCH WITH REFLECTIONS ON THE RESEARCH OF FREUD AND HUGHLINGS JACKSON AND ON THE LIMITATIONS OF STATISTICS

MAX LEVIN, M.D.¹

Hamburg's recent article(1) on the training of the psychiatrist has prompted the following reflections. While his article is stimulating and constructive, there are intimations in it on the nature of research that call for comment.

In describing the residency training program in a major teaching center, Hamburg tells of the effort made to arouse an interest in research. The effort begins in the first year of the residency, with seminars on research problems and techniques. Referring to the topics presented in these seminars, Hamburg says :

The papers taken up during the first few weeks of the seminar dealt with relatively familiar problems, highly relevant to the residents' current activities. For example, since the residents began their clinical training with work on the inpatient units, initial papers typically dealt with problems of schizophrenia—for example, family relationships in schizophrenia, psychotherapy with schizophrenics.

In the first few weeks of a training program the natural impulse would be to assign problems of a simple and elementary kind, and it would seem that Hamburg believes that "family relations in schizophrenia" and "psychotherapy with schizophrenics" fall into this category. But these problems are far from simple and easy. Indeed, one can scarcely think of problems for research that are more complex and tricky.

If it is true that Hamburg judges these problems to be simple, what is the basis of his judgment? Perhaps it is, in part, their amenability to statistical treatment. You take 50 young schizophrenics and a control group of 50 healthy college students, and you see, for example, which group has the higher incidence of unloving mothers. But in psychiatric research we must not exag-

gerate the value of statistics.

It is widely believed that if an investigation lends itself to statistical treatment, it is "scientific" and "objective." Otherwise it is "subjective" and relatively worthless. In all candor I must say that our colleagues in psychology are inclined to this view. Many of them hold that research in problems of the mind devolves upon them rather than psychiatrists, for they are trained in statistics, whereas physicians have only an elementary knowledge of this subject, if any. But this conception of the nature of research is much too narrow. In the entire history of psychology the finest research was that done by Freud, and in all his work there is not a single graph or table, and one looks in vain for a reference to chi square.

At the risk of oversimplification I would suggest that psychiatric research falls into two categories: the fact gathering type of study that lends itself to statistical treatment, and the more complex type of study that seeks to *explain* mental phenomena.

Many studies in the first category, I submit, are not really research. They only wear the facade of research. They are reminiscent of Madison Avenue, where an investigator is said to be doing "research" when he rings the doorbells of a thousand housewives to ask which soap they prefer. Of course, this comment does not apply to studies in such fields as biochemistry, where the quantitative approach is a necessity. It would be impossible to explore the metabolism of serotonin without a quantitative orientation. But in the field of psychology the quantitative approach is not always fruitful. Indeed the history of psychology shows that its greatest achievements came from flashes of insight, comparable to the intuition of the creative artist. Freud's achievements did not require the use of an adding machine or a computer. They sprang rather from the reflections of a genius, like the inspirations that produced

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the symphonies of Beethoven.

Newsweek magazine on May 22, 1961, carried an item that has some bearing on the applicability of statistics to the more complex problems of life. A professor of psychology died, leaving two young unmarried sons. An authority on psychometrics, he believed in the prognostic value of standardized tests in regard to success in marriage. In his will he urged his sons and their future brides to appear before a team of psychologists for a battery of tests. He had worked out a formula leading to a score in terms of so many points above or below "E" (for eugenics). The will provided that the young couples be awarded \$400 for each point scored above E and penalized the same for each point below E. The motive is praiseworthy, but its expression is stultifying, for we may imagine the following possibility. A son falls in love with a Wellesley graduate *summa cum laude* who is working for her Ph.D. in physics. The young woman, who is not lacking in brains, asks herself, "How much does my young man love me for myself alone? Is he influenced at all by the number of points I can score above E?" The doubt created in her mind would never be compensated for by \$400, nor by any multiple of \$400. As the Preacher pointed out in Ecclesiastes, there is a time and place for everything. Statistics have their value but only in their proper place. A battery of psychometric tests that is a powerful tool in the hands of a school guidance counselor may be useless in the hands of a lover. Marriage, like all of life, is a gamble, and the biggest battery of tests given by a board of experts cannot make it less so.

The multiplication of "research" projects that can yield nothing but a confirmation of the obvious is a growing scandal. I have before me a study of the reactions of Negro children to race and color. The investigators presented the child with dolls that were identical except for color. Some of the dolls were white with blond hair, while the others were brown with black hair. The child was asked to select "the doll you like best," "the doll that looks nice," "the doll that looks bad," "the doll that looks like a white child," "the doll that looks

like a colored child," "the doll that looks like you." The test was given to many Negro children in a Southern state and a Northern state. The ages were from three to seven. The article has numerous statistical tables, correlating the responses with age, location (North or South), color of child (light, medium or dark), *etc.* Not surprisingly, the children tended to prefer the white doll to the colored doll. In response to the request to select "the doll that looks like you," the percentage of correct responses (the brown doll) increased with age: the older the child, the more likely is he to know he is colored. But what man with eyes to see and ears to hear must undertake a research like this to discover that Negro children, as they grow up, become conscious of their color?

A word about the moral aspect of the study. The authors stress the quantitative nature of the study, but (rather apologetically) they also present "some qualitative data." We read that in giving their reasons for preferring the white doll, the children would explain, "'cause he's pretty, 'cause he's white," while they rejected the brown doll "'cause he's ugly, he's got black on him." A 5-year-old dark child explained his identification with the brown doll by saying, "I burned my face and made it spoil." A 7-year-old light child said he is really white, but "I look brown because I got a suntan in the summer." Some children who were relaxed at the beginning of the test "broke down and cried during the latter part when they were required to make self-identifications. Indeed, two children ran out of the room, inconsolable, convulsed in tears." One is appalled by the unconscious brutality of intelligent and educated men who subjected Negro children of tender years to mental torture in an investigation which, as they should have foreseen, would add nothing to existing knowledge.

I have mentioned the work of Freud as an example of research *par excellence*. Freud needs no "plug" from me, and I shall instead proceed to some equally outstanding psychiatric research that has been all but forgotten, the work of Hughlings Jackson. Jackson is remembered for his work on epilepsy and aphasia, but not many are aware of his investigations into the mind.

I shall consider one example from the work of this man, who, it seems to me, was the most realistic of all those who have tackled the mind-brain problem (8).

The Tendency in Delirium to Mistake the Unfamiliar for the Familiar. Observations on delirium are scattered throughout Jackson's papers, and it is evident that this condition interested him deeply. He showed how the phenomena of delirium fit in with his conception of the organization and function of the nervous system (5, 7).

Jackson believed that the basic design of the nervous system is the same from bottom to top, though, to be sure, as one passes from lower to higher levels there is an increase in complexity. The same principles of function apply to all levels.

Jackson paid much attention to a principle he called "reduction to a more automatic condition." Lower levels are more highly organized and function more automatically than higher levels. When centers on a higher level are paralyzed, the responses they normally mediate may be mediated, after a fashion, by lower centers instead; that is to say, there is "reduction to a more automatic condition." Higher centers being paralyzed, the nervous system tries to make do with what remains, like a man with crippled legs who crawls when he cannot walk.

In his study of delirium Jackson made the observation that the patient tends to mistake the unfamiliar for the familiar. The classic example is the man in the hospital who thinks he is at home and mistakes the nurse for his wife. Jackson showed that this is a manifestation of reduction to a more automatic condition. Elsewhere (5) I have considered in detail his presentation of this matter, with extensive quotations from his papers.

This tendency to mistake the unfamiliar for the familiar is by no means confined to delirium. In delirium we see in grotesquely exaggerated form a tendency found in normal people as well. It is never entirely easy to recognize the new. In a novel situation the instinctive tendency is to overlook the novelty and to think instead that the situation is like those one has met before. There is a lot of good physiology and psychology in the story of the small boy who thought

that the Lord's Prayer begins with these words: "Our Father who art in Heaven, *Harold* be Thy name." And there is the little Puerto Rican boy in New York who was learning the National Anthem and was heard to sing: "José, can you see?"

Pertinent here is a remarkable observation that Kubie (4) made in Penfield's operating room. The patient was a farm girl about to undergo extirpation of an epileptogenous focus in the temporal lobe. Kubie was under the drapes with his recording equipment, and he showed her a series of pictures of simple objects and asked her to name them.

She did this quite readily until Dr. Penfield stimulated the area in the lobe which caused an arrest of speech. This occurred just as she had been shown the drawing of a human hand. At the moment of electrical stimulation all speech ceased as though frozen into immobility. It was like watching a motion picture brought to a sudden halt. Then as the current was turned off she began to make mouthing movements and then slowly and hesitatingly said in sequence: "five, five . . . five horses . . . five horses . . . five pigs . . . five pigs . . . five fingers . . . hand."

Confronted with the picture of a hand as function slowly returned to her speech areas, the patient was understandably obsessed with the number five. But why did she say five *horses* and five *pigs*? Clearly it was because, as a farm girl, she habitually thought in these terms. Had she been a pianist, her response might have been in terms of finger action at the keyboard. Or if the patient had been an Army officer stationed in Washington, he might have thought of the Pentagon.

In demonstrating, first, that the delirious patient tends to mistake the unfamiliar for the familiar, and, second, that this tendency is understandable as a manifestation of reduction to a more automatic condition, Jackson may be credited with an achievement that can serve as a model of psychiatric research of the highest order. It is "pure" research, with no practical value. It will not help us to cure a patient faster, or to localize a lesion. But it is entitled to be called research because it helps us to understand how the brain carries out its function of enabling us to appreciate reality.

It is remarkable that Jackson discovered the existence of this tendency, a clinical fact that eluded the eye of Kraepelin, the prince of descriptive psychiatry of a later generation. Jackson was no psychiatrist, but he had an inquiring mind. He spoke of the highest cerebral centers as "the organ of mind," and a thinking disturbance challenged him to determine the kind of cerebral dysfunction that would account for it. He was not content to rest on the proposition, "The patient is disoriented; he mistakes the nurse for his wife; we may therefore say he is delirious." He asked—and answered—the question: "Why does he mistake the unfamiliar for the familiar? What kind of physiological loss would account for it?"

Loss of the Ability to Name the Physician's Occupation on Command with Retention of the Ability to Name it Spontaneously. We now proceed to another observation in delirium, one of my own. It is brought up here not only because (at least in my opinion) it is of some interest and value, but also because the observation, or rather the way it came to be made, is useful in a consideration of methodology in psychiatric research.

In delirium the patient is disoriented, and if you ask him your occupation he may be unable to answer correctly, saying either he does not know or else giving a wrong answer. But then a striking thing happens: in talking to you he may spontaneously address you correctly by title, as when he says "Yes, Doctor" or "No, Doctor" or when he replies to some friendly remark, "Thank you, Doctor." Should you again ask him your occupation, he may again fail, even though he has addressed you by title only a moment before. I have often made this experiment: when the patient has addressed me by title, I ask him my occupation and he gives an incorrect answer; we then continue talking until the next time he addresses me by title, whereupon I again ask him my occupation and again he answers incorrectly. This may occur over and over in the same interview.

Sometimes the patient addresses you as Doctor *in the very sentence* in which he tries unsuccessfully to name your occupation (4, 6). Thus a woman in a bromide

delirium, when asked my occupation, replied, "I wouldn't know, Doctor, is it painting and decorating?"

This phenomenon is not a capricious accident. It is identical in principle with a phenomenon in motor aphasia to which Jackson paid close attention (4, 6). He emphasized that in aphasia it is not words that are lost, but rather the use of words in specific contexts. His favorite example was the patient who cannot say "No" on command, yet he can say it in reply to a question that calls for a negative answer, and, better still, he can shout it under emotional stress, as when he sees his child creeping too close to the fire. Jackson gave this as an example of reduction to a more automatic condition. Shouting "No" under emotional stress is highly automatic. When a man shouts to a child in danger, he does not have to think of his words; they come to his tongue automatically. By contrast, to say "No" on command is highly voluntary: the utterance is a studied and calculated act.

Similarly in delirium, when you ask the patient to name your occupation, you are testing a voluntary function. He must *think* in order to answer. But when he spontaneously addresses you as "Doctor," he does it without thinking. His act is automatic. He doesn't *know* he is addressing you as "Doctor," for he may do so many times in an interview in which repeatedly and invariably he fails to name your occupation when asked.

The parallel even extends to those instances in which the patient addresses you as "Doctor" in the very sentence in which he tries unsuccessfully to name your occupation. The aphasic patient, striving in vain to say "No" on command, may at last cry out in despair, "No, I can't say it."

Clearly there is a precise parallel between the phenomenon in delirium and the one in aphasia. They both are manifestations of reduction to a more automatic condition. In aphasia, as Jackson emphasized, it is not words that are lost, but the ability to use words in particular situations. The patient has not lost the mechanism for the word but the mechanism that enables him to say it *voluntarily*. He can still say it automatically. Correspondingly, in delirium the patient has lost, not the concept "Doc-

tor," but only the capacity to name your occupation when you ask him to, when he must *think* what it is. He recognizes you as a doctor automatically—so long as he does not *try* to. The moment you ask him to try to recognize you, he fails.

The observation in delirium was made in the course of a study of the bromide psychoses, in which I would sit down with the patient, not to "examine" him, but simply to talk to him, to try to learn how he thinks. It is here that the matter of methodology comes up. Here is a typical situation. A patient is admitted to the psychiatric ward, and the resident comes to "do a mental status" on him. With the outline before him, he asks scores of questions—the date, the name of the President, and so on. When he is finished, he gathers up his notes with a sigh of relief and wonders which of his many chores to turn to next. He feels he need no longer spend much time with the patient. He has "finished the mental status." From now on he must note only the changes that may occur—and here the nurses can help him. I submit that this is not the best way for a young physician to learn the psychoses. He will not learn schizophrenia by "doing a mental status" on a dozen—or a hundred—cases. What he must do is talk to the patients often and at length, without limiting himself to a standard list of questions. In the course of a routine mental status you are not likely to observe that the delirious patient can address you spontaneously by title though he cannot name your occupation. But if you talk to him freely and often, you will sooner or later make this observation.

If I were preparing a program to stimulate an interest in research in young residents, I would consider the following suggestion: Spend as much time as you can with the patients on the ward. Watch them work and play. Sit down and talk to them, over and beyond the routine mental status. Talk to them about baseball, books, jobs, anything under the sun. You want to learn how the psychotic patient thinks, how his thinking differs from yours.

The reader may object: This is all well and good, but it is not research. It is merely one way for the resident to learn the rudiments of descriptive psychiatry. Research

means adding to the store of knowledge, not just acquiring that which already exists.

Implicit in this objection is the belief that descriptive psychiatry is already a closed subject. I prefer to believe otherwise. Surely it is not possible that we already know all there is to know of the manifestations of the mind and its disorders, a field of infinite complexity and diversity. Kraepelin and Bleuler have by no means said the last word. It was not until the 1930's that the observation was made that the delirious patient can address you as "Doctor" when he cannot name your occupation.

I conclude with a personal note. In 1931, before the appearance of *The Selected Writings of John Hughlings Jackson*, volumes I and II of *Brain* fell into my hands. Curious to see what neurologists were doing in those days, I browsed through the volumes and came upon Jackson's article (in three sections) "On Affections of Speech from Disease of the Brain." It was the first article of his I had ever seen, and I was enchanted by the clarity of his exposition of a complex subject. Readers justly complain of his obscure writing, for he lacked the literary grace of a Sherrington. But no one can complain of his thinking. Jackson was no giant of the pen, but he was a giant of the intellect. It was soon afterward that a delirious patient who was completely disoriented addressed me spontaneously as "Doctor." Immediately there flashed through my mind the thought, "Amazing: this is exactly what Jackson emphasized in aphasia, where the patient can say 'No' spontaneously but not voluntarily." I wondered, "How many times did this observation in delirium come my way and I failed to notice it because it had no meaning for me?" I will never know. The soil must be prepared before the seed can take root.

SUMMARY

Psychiatric research, in the best sense of the term, means the *explanation* of behavior. The mere gathering of facts, which are then treated statistically, is not necessarily the highest type of research. Freud's work and the work of Hughlings Jackson on the mind-brain problem are held up as examples of research of the highest quality, with specific reference to Jackson's demon-

stration of the value in delirium of his concept of "reduction to a more automatic condition."

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SOCIETY AND THE SOCIOPATH¹

MAXWELL JONES, M.D.²

The difficulty of separating moral from strictly medical judgments is one of the most difficult problems we have to face in psychiatry. In the evidence admitted on the behalf of the Institute for the Study of the Treatment of Delinquency to the Wolfenden Committee on homosexual offenses and prostitution, the following statement is found: "To the psychiatrist, the problem of homosexuality raises no question of criminality unless the sexual deviation is associated with acts of violence, assault or seduction of minors"(1). Commenting on this statement, Barbara Wootton states, "Psychiatrists generally, and the particular group of psychiatrists in whose name this evidence was drawn up, are as much entitled to their personal opinion as is anybody else. They may, if they wish, dislike violence or assaults upon minors while raising no objection to homosexual acts between consenting adults or at least deprecating the prohibition of these by the criminal law. But in what sense such views can claim to be medically established is far from clear"(2). The same difficulty applies in the whole field of sociopathy. Freedman says that the psychiatrist "talks the language of the scientific method and has a professional need to consider his social preference as having resulted from scientific observation. He is in danger of replacing the semantics of social morality with that of psychological morality without changing the substance." (3). The fact would seem to be that if psychiatry is to play a useful part in the field of sociopathy, it has to give up purely medical concepts like sickness, and moral judgments like sickness or sin, and concentrate on finding a role in conjunction with the social sciences and penology. Public health was once primarily concerned with the epidemiology of infectious diseases and has now moved much closer to the field of social

medicine. In the same way, it would seem that psychiatry has to concern itself with the problems of the sociopath, the alcoholic, the criminal, the work shy and so on but cannot hope to do this adequately unless there is the closest liaison with the other disciplines. Such a transition is, of course, already apparent in many areas and the schools of public health, such as Harvard and Johns Hopkins, have gone a long way to bring about such an interdisciplinary training for psychiatrists.

In Britain, the new Mental Health Bill(4) represents a bold step in the direction of social planning. In it, psychopathic disorder is described as "persistent disorder of personality, whether or not accompanied by subnormality of intelligence, which results in abnormally aggressive or seriously irresponsible conduct on the part of the patient and requires or is susceptible to medical treatment." This description will satisfy no one but is at least an attempt at a working definition. The British plan to establish special centers for the treatment of character disorders and referrals from the psychiatric clinics, from the courts and from the prisons can be made to these centers. By implication they accept the fact that the sociopath requires something in addition to the traditional mental hospital and penal institution. It is anticipated that these treatment centers will have both open and closed wards and will be available to both voluntary and committed patients. In Britain, the new Bill allows for the compulsory detention of a sociopath in a psychiatric hospital provided he be under the age of 21. However admission for observation for a period not exceeding 28 days can be arranged for a patient of any age. Both forms of compulsion require two medical certificates and no legal formality. As yet, very little use is being made of these compulsory procedures. The Royal Commission report(5) pointed out, "If the psychopathic patients are subjected to special forms of compulsion on grounds of abnormality, which is evidenced mainly by their be-

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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havior, this is almost equivalent to the creation of a special quasicriminal code for them alone."

So far, only the special treatment unit at Henderson Hospital, formerly called the Social Rehabilitation Unit, Belmont Hospital(6), is in being, but several other special centers for the treatment of psychopaths are planned. It will be interesting to see what location will be chosen for these new units. If they are attached to psychiatric hospitals, there would be obvious gains in economy and in sharing specialist medical services. More important is their attachment to an ongoing psychiatric service with its established traditions, its own catchment area, and its contact with the local authorities, general practitioners, and others. Moreover, the psychiatric hospital would be already familiar in the neighborhood and the addition of a psychopathic unit would be less challenging (and anxiety provoking) than a new establishment in a new environment solely for the treatment of sociopaths.

On the negative side, however, the establishment of a unit of this kind in an existing mental hospital could create a difficult minority problem. Psychopathic or sociopathic units tend to be seen as privileged, "different," and dangerous. Moreover, the treatment needs of sociopaths are, according to many psychiatrists, quite different to those of the ordinary psychotic in a mental hospital and call for another kind of social organization. Two separate treatment ideologies within the same hospital tend to create difficulties. The alternative is to have separate psychopathic hospitals which develop their therapeutic cultures unhindered by the established treatment ideology and mores of a parent hospital. Such an arrangement, however, would tend to isolate the sociopathic unit from the general body of psychiatry and create a state of affairs not unlike that which has happened in the case of mental retardation. The important point is that the British have embarked on a course of action which means the bringing together of sociopaths from both psychiatric and legal referral channels and indicating that their requirements call for further research and special centers to meet the particular needs of this type of

patient. It remains to be seen what will actually be accomplished.

In the U. S., the picture is even less clear. Various states have their own particular arrangements and in some states, special psychopathic laws allow for the commitment through legal channels of sociopaths to hospitals which are designed for their treatment. Atascadero State Hospital in California is an example of a hospital where the referrals are largely labeled sexual psychopaths. Commitment under the existing laws to this institution represents, in a sense, an indeterminate sentence and it seems that the sociopath would frequently prefer to be sent to prison where he would be given a more definitive sentence. In the main, however, it seems that the severe sociopath in the U. S. has to break the law in order to come under some kind of social system where help may (hopefully) be forthcoming. It is interesting to note that the Final Report of the Joint Commission on Mental Illness and Health(7) makes a strong appeal for improved treatment for the psychotic but makes relatively little of the problem of the character disorder. In the summary of their recommendations for a National Mental Health Program, they state,

In the absence of more specific and definite scientific evidence of the causes of mental illnesses, psychiatry and the allied mental health professions should adopt and practice a broad, liberal philosophy of what constitutes and who can do treatment within the framework of their hospitals, clinics, or other professional service agencies, particularly in relationship to persons with psychosis or severe personality or character disorders that incapacitate them for work, family life, and everyday activity.

However, at no point does the Report really come to grips with the social problem of the character disorder. In relatively few states has any serious attempt been made to isolate the problem, either in the departments of mental hygiene or in the penal system. One of the most interesting developments is in the Department of Corrections in California where several active attempts are made to treat sociopaths and drug addicts under "living group" condi-

tions. In these living groups, communities of 60 to 80 men are brought together and live in the same quarters, either within the penal institution itself or in a forestry camp. These living groups are run on therapeutic community lines with daily meetings of the entire inmate and staff population. Behavior is talked about freely and free expression of feelings is encouraged. A large degree of responsibility is put in the hands of the inmates and decision-making on matters of considerable import is shared with both the inmates and staff. In one unit, the inmates all work in the laundry, and the problems which develop in the work situation are fed back to the daily community meetings. Another experimental treatment unit involving a forestry camp also has daily meetings of inmates and staff. The forestry personnel, and the correctional and custody staff all participate in the daily meetings where work problems as well as the other emotional difficulties are discussed. The new Narcotics Bill in California will allow any addict to go to any doctor, or to the police, or to the courts and ask to be committed to the new rehabilitation center, which is being built at Chino. Male, female and youth authority drug addicts will all be housed in the same treatment center. In this center, custody and treatment functions will be fused and units of 60 drug addicts will be in the charge of a social worker. It is planned that these units will carry out a form of group therapy on a daily basis and it is probable that there will be mixed groups, with male and female drug addicts coming together in the same group.

The Department of Corrections is developing a treatment which is not slavishly copying the psychiatrist's concept of psychotherapy and which has as its main purpose the modification of antisocial attitudes. They have psychiatric consultants but have tended to blend their skills with those of the social scientists. In addition, a rigorous research program is attempting to assess the comparative merits of individual and group counseling, group treatment, and community treatment with as many as 60 to 80 inmates involved in one meeting. This is, I think, a more extensive study of treatment methods than any going on in mental

health at the present time. Moreover, as more than 80% of their inmates are put on parole on leaving their institutions, a very adequate follow-up study is possible.

Extensive statistical research into parole violation rates has resulted in the development of a "base expectancy score" which can predict with considerable accuracy the probable parole outcome of inmates on release from prison. All intakes to the Department of Corrections are now being given this base expectancy score and this can help to indicate the optimal length of stay in an institution, which may in certain cases be shortened if the base expectancy score is high. This amounts to letting the inmate serve part of his sentence in the general community supervised by a parole officer. I wish that in the field of mental health we had something equivalent which would allow us to decide on the prognosis and optimal time for discharge in many of our sociopathic and mental patients.

Douglas Grant, head of research in the Department of Corrections in California, is also working on a social maturity scale(8). This is an interesting attempt to introduce a classification system which promises to be more appropriate for a prison population than any psychiatric classification yet devised. A scale on which maturity judgments are based is derived from a theoretical quantification of the individual's capacity to form relationships with other people. This theory describes 7 maturity, or integration, levels which represent successive stages of growth in the capacity to perceive self and the environment without distortion. This implies an increasing capacity to form social relationships and to integrate more realistically and effectively with one's environment. They are attempting to correlate the inmates' social maturity level with the effectiveness of different forms of treatment and also with the social maturity level of the staff who are carrying out the treatment. This links up with the fascinating and as yet little studied problem of the competence of the average, middle class psychiatrist or social scientist to understand and communicate effectively with patients coming from the lower socio-economic groups.

The Department of Corrections is also

reaching out into the community in various ways. Family groups are being encouraged in some areas and several outpatient services are being developed where inmates can look for further help on discharge. Moreover, the parole officers are in a position to offer continued treatment and, under certain circumstances, recommend return to an institution for further supervision and treatment. At least one halfway house is being planned and the youth authority is attempting a community treatment project in which a group of social workers are given a small caseload of 8 parolees and are carrying out what amounts to very careful, individual casework supervision, working with schools and with families, and at the same time acting as parole agents.

Projects such as these and the work going on at Highfields in New Jersey(9) and Pinehills at Provo(10) in Utah indicate that the major initiative and progress in the field of the treatment of character disorders seems to be going on outside the body of psychiatry. It would seem to me that no one group can possibly tackle this problem effectively without using all the available resources from other disciplines. As things are, the majority of sociopaths under treatment are probably to be found in the state hospitals where little or nothing of a constructive or planned program is available. Our social workers are in short supply and in any case, they appear to have lost their skills in supporting and treating patients in the community and have tended to focus on individual casework in their offices. With the opening up of state hospitals, the increasing number of patients coming for treatment voluntarily and the increasing infiltration of the community, one can hope that the sociopath will be able to get help at an early stage of his career. There would seem to be a very good case for the establishment of some pilot units in state hospitals where cases can be admitted voluntarily or referred for treatment from the courts or from prison. Units of this kind would be expensive and would probably require a more generous staff: patient ratio than would the rest of the hospital. Moreover, the training and social organization in these units would probably be different to the rest of the hospital. It is only by

establishing such units under optimal conditions that we can get some awareness of the relative advantages of treating many of these individuals in state hospitals as opposed to a prison. Alternatively, some separate treatment units which are perceived as neither mental hospitals nor correctional penal institutions might be tried and compared with the more orthodox treatment methods. The fact is, of course, that until psychiatrists really feel that this undertaking is worth while, nothing very much will happen. My own experience would lead me to think that the sociopath can be helped, provided one establishes realistic and modest treatment goals. It is my belief that the majority of character disorders can be helped to modify their social attitudes and in some cases real personality change may be effected. With a wide social approach involving families in the treatment program, it seems that a great deal could be hoped for in the field of preventive psychiatry. Certainly, something must be done to try to prevent the vicious cycle of sociopaths drifting into "need fit" marriages and producing sociopathic children.

CONCLUSION

It would seem that we as psychiatrists have to clarify our thinking on the moral issues involved in sociopathy and come out strongly in favor of treatment for those cases, and I think they represent the overwhelming majority, where such an approach can help. If we take this stand then we must be prepared to carry out such a plan. Psychiatrists must believe in the efficacy of treatment and be prepared to help patients in outpatient clinics, hospitals, prisons, or special units established for this type of case. So far the moralistic attitude of the profession to this type of case has been one of the many factors hindering the development of adequate treatment facilities.

There would also seem to be a need for a multidisciplinary approach as psychiatry is often largely unaware of the developments in other fields such as correctional work and the theoretical and applied approach of the sociologists. But in the last analysis it is society itself which decides how much money and effort is to be ex-

pended on its social casualties, and by implication how much responsibility it is willing to assume in this field.

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DAY AND NIGHT PSYCHIATRIC TREATMENT CENTERS: I DESCRIPTION, ORGANIZATION, AND FUNCTION¹

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Day and Night Centers facilitate the treatment of patients requiring more intensive and extensive treatment than can be provided in an outpatient setting and yet not needing full time hospitalization. Ordinarily the referring source has little choice in planning such treatment and must use full time hospitalization, which results in the patient giving up functioning in his family and society; and although relatively total separation is sometimes therapeutic, often it is not. Full time hospitals frequently place unnecessary restrictions on personal freedom; even the most flexible administration may require patients to adjust to the routine of the institution rather than having the institution adjust to the individual needs of the patient. The Day and Night Centers offer the advantage of encouraging the patient to continue in spheres of activity where he is relatively comfortable and competent, while simultaneously providing a therapeutic experience not unlike full time hospitalization. Participating in treatment while continuing to function in the external world reduces the artificiality of the hospital society and permits the patient to experience the interaction between his treatment and the external world in a more meaningful way. Continuing interaction with his family reduces concern about separation and fosters the family's integration into the treatment process.

The character of Day and Night Centers has varied widely, depending on the kind of patient accepted for treatment and the therapeutic goals. Some centers have been

limited to the care of a particular group of patients such as the aged(1) or chronic psychotics(2). Others have sought to provide a social club atmosphere where patients may derive emotional support from developing new interpersonal relationships (3). Still others have offered many of the services provided by the full time hospital (4-8).

The purposes of this paper are to describe the organization and operation of a Day and Night Center, and to define the types of patients who may be treated effectively. Case vignettes will demonstrate some of its specific advantages.

THE FACILITY AND THE PROGRAM

The Day and Night Centers of The University of Chicago Service of the Illinois State Psychiatric Institute,³ have a maximum capacity of 18 patients each and occupy the same physical facility. The unit, originally designed as a locked security ward, consists of 18 single rooms, a day-room area, and an occupational-therapy-recreation room.

The Day Center was organized to provide 8-hour treatment for ambulatory psychotics, elderly patients, unemployables, and "other patients not requiring full time hospitalization." The last, somewhat vague group, has expanded as experience has increased, and now these patients are similar to typical full time hospital patients. The therapy program is organized after the "total push"(9) pattern with emphasis on group activity therapy, group psychotherapy, psychodrama, patient government, and occupational, recreation and work therapies. The staff arrives on weekday mornings at 8:30 and after a short planning meeting meets the patients between 8:45 and 9:15 at a morning coffee hour. Thereafter, three times a week, small group psychotherapy is conducted by a

¹ Lester H. Rudy, M.D., Director, Jackson A. Smith, M.D., Clinical Director, and Miss Catherine Norris, R.N., Director of Nursing, Illinois State Psychiatric Institute, were helpful in organizing and operating the Day and Night Centers. C. Knight Aldrich, M.D., Professor of Psychiatry at the University of Chicago, was an active participant in the original planning of the Centers and his comments on this manuscript were of great value.

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³ This hospital is an integral part of the Illinois Dept. of Mental Health. Adjacent to the Day and Night Center is a 30-bed full time hospital ward under the same administrative management.

third-year psychiatric resident. The whole group is divided in half so that each small group consists of 6 to 9 patients, a nurse and an aide.

On other mornings the hour is used for activity planning and ward government meetings, or a community-wide administrative meeting. When not involved in these meetings, patients engage in on-ward recreational, occupational and work therapies. Lunch is shared by patients and several staff members. The afternoon consists of recreational activities either in the gymnasium or out of the hospital. Once each week the entire group meets for psychodrama. Also in the afternoon patients are interviewed for vocational training and employment and may have work assignments in other areas of the hospital. At 4:00 P.M. the patients leave for home and the staff meets for an hour to discuss the events of that day and plan for the next day.

The Night Center provides a service to the remainder of the hospital. Patients hospitalized on other wards were transferred, when they became employable to the Night Center which is open 5 nights a week. The patient is expected to leave for work or home each morning and return each evening. Week-ends are spent either at home or in another suitable setting away from the hospital. Although initially planned solely to provide a transition phase between hospital and home and job, the Night Center soon began to accept direct admissions, thus expanding the potential therapeutic use of the unit. The night program includes group psychotherapy, social group work, patient government and activity therapy shared by all patients and staff. The night staff and patients arrive at 4:30 P.M. A family style dinner is served at 6:00 P.M. Three nights a week, between 7:00 and 8:00 P.M., a third-year resident leads group therapy which considers problems of community living and of leaving the hospital. On the other two evenings, a ward organization and planning meeting and a dynamically structural period of recreation are led by a social group worker. After 8:00 P.M. patients and staff gather informally for television, card playing, games, social parties and other activities. Patients retire between 10:30 P.M. and midnight. Breakfast is

served at 7:30 A.M. and the night patient returns to work or to his home.

The staff for each center consists of a staff psychiatrist (who supervises both centers), two female nurses, two male aides, a third-year psychiatric resident and a social worker. In the Night Center the nursing staff and aides are divided between two shifts. In the Day Center all are present simultaneously.

FUNCTIONS OF THE DAY CENTER

The Day Center has been of value in the following circumstances :

1. *As a definitive treatment center for many patients who do not require a full time hospital.* In such cases hospitalization may be damaging to the patient because it prevents him from using those psychological capacities which continue to function well. It also damages the community as it removes the patient from his usual social relationships and creates an unnecessary drain on community resources. The Day Center should be considered only if there are productive aspects in the patient's environment; if the family is willing to participate actively in treatment; and if the patient is not homicidal or suicidal.

Case 1. A 19-year-old single male was admitted complaining of paralyzing anxiety whenever he attempted to leave home. The patient and his mother reacted to admission with anxiety. He felt that he could not leave her and, at first, she insisted on remaining with her son. During the first 3 weeks, the patient gradually established relationships and became somewhat more comfortable. The staff then took the firm stand that the patient must come to the hospital alone. His new found capacity for independence was fostered and he subsequently planned to return to school and live separately. In the meantime intensive individual and group therapy with the mother enabled her to allow him to separate. On beginning school he asked to be transferred to the Night Center where he continued treatment.

2. *As a training center to reestablish work patterns and to facilitate job rehabilitation.* Chronic ambulatory psychotic patients often decompensate slowly over the course of several years. A patient who formerly worked regularly, gradually withdraws as his daily routine becomes too anxiety pro-

voking. Day Center treatment fosters the establishment of a regular routine of activity. The patient leaves home each morning for a place where definite but limited demands are made. He is encouraged to participate actively with other people in a variety of pursuits. He is frequently given responsibilities and ultimately work assignments in the remainder of the hospital. The creation of a job-like experience often provokes the patterns of conflict, characteristic of the pre-morbid performance in work relationships. The Day Center offers an opportunity for understanding and integration of these disruptive patterns. Vocational rehabilitation may then be started while the patient remains in the Day Center.

Case 2. A 28-year-old single man was admitted with a history of unemployment for 2 years. He lived at home with his mother and an older brother who supported the family. The older brother was planning to marry, and although he and two other siblings would continue to support the patient and his mother, the patient became anxious and hostile and complained that people were against him and persecuted him. For at least 10 years he had been somewhat withdrawn, apathetic and prone to spend a great deal of time alone daydreaming. The Day Center provided a structured situation in which the patient began to form interpersonal relationships. Although he remained isolated from most of the activities for a number of weeks, he eventually learned handicraft skills and several games. After 4 months he was given a job of delivering messages to other parts of the hospital, and he later was promoted to a mail sorting task. Still later he became actively involved in vocational rehabilitation and was transferred to the Night Center.

During the early part of hospitalization he continued to live with his mother, but later he moved to the home of a married sibling. Eventually he secured a small apartment. He was discharged after 11 months working regularly with an adequate independent living arrangement.

3. *As a treatment center for patients who, after a course of individual therapy, need additional treatment emphasizing interpersonal relationships and social factors.* In the course of individual outpatient treatment, patient and therapist occasionally recognize the need for another kind of

treatment experience providing new interpersonal relationships in a setting where these relationships are the focus of treatment. Such group treatment may serve to dilute a too intense transference relationship or may provide the patient with a ready-made opportunity to put increased self knowledge into operation. It may be necessary when the patient is too ill to create productive social situations for himself.

Case 3. A 29-year-old single woman, who had been seeing a psychiatrist on an outpatient basis for 3 years was admitted to the Day Center with symptoms of acute anxiety and depression. These symptoms had arisen when her therapist had decreased the frequency of appointments from twice weekly to once a week. Her therapist stated that she had been on a plateau for the past two years, focusing almost all her energy and attention on therapy. The Day Center staff and her outpatient therapist agreed that a period of day care might dilute the intensity of her relationship with her therapist and provide an opportunity to extend her interpersonal skills.

She remained for 10 weeks, becoming a leader in activity and psychotherapy. She commented, "I never quite understood what my therapist and I were talking about and how it applied to everyday life." The Day Center experience served as a practical demonstration of some of the factors she had previously dealt with only in an intellectual way in individual therapy.

4. *As a transition into the full time hospital when patient and family cannot tolerate immediate total separation.* Occasionally, during a diagnostic process, the evaluator believes that a severely ill patient should be in a full time hospital but recognizes that the patient and his family cannot accept the recommendation, because they are involved in a mutual symbiotic relationship. In a few instances these patients and families have been willing to accept treatment in the Day Center because they could reunite each evening. This compromise has been effective in itself in some instances; in others, it has led to full time hospitalization.

Case 4. A 19-year-old single man was admitted to the Day Center with a history of flatness of affect, looseness of associations, and delusions of persecution for at least 2 years.

He had been living with his mother who supported herself and the patient with a pension check and occasional day work. The severity and duration of the patient's illness suggested that full time hospitalization was indicated, but neither the patient nor his mother could accept that recommendation.

The patient began to form some tentative interpersonal relationships and to join in a few of the activities. In the meantime, his mother was involved in group and individual therapy with the social worker. Ultimately the patient and his mother were able to accept the need for full time hospitalization and he was transferred approximately 3 months after admission.

FUNCTIONS OF THE NIGHT CENTER

The Night Center has been helpful to patients in the following ways :

1. *As a temporary intermediate residence between full time hospitalization and total discharge.* Hospitalization is a gratifying experience for many seriously ill patients. The hospital and staff provide lodging, food, activity and secure interpersonal relationships while making relatively few demands on the patient. These gratifications are oftentimes difficult to relinquish at the time of discharge, and many patients experience an exacerbation of symptoms when preparation for discharge begins. Occasionally this separation reaction is so severe that it jeopardizes the results of the entire hospitalization. In such instances, the Night Center offers the patient an opportunity gradually to separate from the hospital and to reestablish family, social and work patterns.

Case 5. A 37-year-old married man with acute anxiety was admitted to the hospital with a history of an intensely dependent relationship with his wife, who had just delivered their first baby. During a four-month period of hospitalization, his symptoms abated and much of his dependency was transferred to the hospital. When discharge plans were initiated, he had an acute exacerbation of symptoms. When the therapist suggested than an intermediate step was indicated as a transition, his symptoms again abated. He secured work and was transferred to the Night Center for further treatment. He was extremely passive and demanding, making repeated requests for extra food and medication. Gradually, however, he became aware of his need to be the "baby." Ac-

tive interpretation of his conflict led to new awareness of his infantile dependent relationships with the nurses and his wife. His wife's participation in the relatives' group led to her increasing awareness of the patient's overwhelming dependency, his jealous rivalry with the new baby, and ways she might cope with these problems. He remained for 2 months and was discharged at his own request.

2. *As a temporary residence for the patient who has no family or other environmental supports.* The patient who is physically distant from family or friends or who has alienated them so that they will not offer help, faces a realistically difficult situation at the time of his discharge from the hospital. If in addition he has no job, a number of reality issues are present which may prevent him from giving up the protection and security the hospital provides. The Night Center permits a gradual solution of these problems.

Case 6. A 34-year-old psychotically depressed European immigrant was hospitalized 2 years after arrival in this country. After 4 months he was ready for discharge, but he had no external supports, lacking job, family and friends. The patient was a skilled tradesman and soon found productive employment. At that time he was transferred to the Night Center. When he became more comfortable on his job he began to look for a small apartment. Meanwhile, he used therapy to express his concerns about his approaching total separation from the hospital. He requested discharge after 2 months in the Night Hospital.

3. *As a temporary residence for the patient who is trying to separate from his family of origin.* Gradually increasing separation from the family of origin occasionally is a treatment goal, particularly when independence has been unduly delayed or the family situation is intolerable and unmodifiable. Even though the decision is jointly reached by patient, family and therapist, both patients and families find it difficult to relinquish one another. The Night Center combines treatment with the opportunity to try working and living apart from his family.

Case 7. A 27-year-old, white, single male was admitted to the full time hospital because of severe episodes of anxiety and re-

current ulcerative colitis. His family found it difficult to permit his hospitalization and for years had been alternating between overindulgence and rejection, thus keeping him tightly bound to them. After a long series of unsuccessful job and school experiences, the patient had become almost completely dependent on his family.

In the hospital he was supported in making the decision to separate from his family and he began to make plans involving little contact. He was transferred to the Night Center, and, during 6 months there, established himself at work and found a separate living arrangement. His relationships in the Night Center were similar in the beginning to his previous relationships with his parents. Clarification and interpretation of these were helpful in his ultimate separation from the hospital and from his family.

4. *As a treatment center where functioning at work or school may be maintained.* Some patients who require extensive treatment are still able to function adequately at work or school. When symptoms do not interfere with a particular aspect of social functioning, encouraging continued performance increases self-esteem and discourages regression. In the Night Center, the patient can continue to function at work or school while receiving psychologic treatment similar to that provided in the full time hospital.

Case 8. A 24-year-old, single, female professional school student was admitted with a long history of mild depression, recently intensified. She felt particularly lonely at night and often was unable to sleep. She walked for long distances, searching for something she could not define. She was tearful and frequently thought of suicide. In spite of her symptoms, she continued performing adequately in school and was well thought of by her instructors and classmates. After she was admitted to the Night Center, her school performance continued at a high level, even though her symptoms persisted during the first 2 months of hospitalization. In the course of treatment she became aware that her crying and depression were related to a delayed grief reaction to her mother's death 7 years before. She was discharged to outpatient care after 4 months.

PATIENT, STAFF, AND FAMILY RELATIONSHIPS TO THE CENTERS

The role of "patient" is defined by social

tradition and experiences. The public's expectation of a "psychiatric patient" resembles that of a "medical patient" in that it involves helpless dependency in a hospital environment. Psychiatric hospitalization also often includes extended separation from family and community. The staff of psychiatric hospitals are conceived as uniformed, authoritarian figures who provide total care and control of the patient. The public, staff members and patients foster these images and insist that they view one another in these stereotyped terms. These traditional roles may be anxiety reducing to all concerned, but they interfere with meaningful therapeutic interaction.

The Day and Night Centers are organized to minimize these expectations and to emphasize responsibility, collaboration, freedom and open communication. The modification of roles and increased closeness of interpersonal relationships are major potential advantages of this type of treatment. However, they may create difficulties for staff and patients, particularly in the early phases of their relationship with the Centers. With the assistance of competent and sensitive leadership, the members of this unit can be helped to integrate these potentially anxiety producing factors into effective treatment. These advantages and difficulties are extensively considered in a recent communication by Werner, Holmes, and Lefley,⁴ arising out of their experience as nursing staff members in this unit.

The continuing interaction between patient and family in the Day and Night Centers promotes a feeling of increased importance for the family. The traditional hospital environment often separates patient and family for an extended period and reduces the family's anxiety to such an extent that their participation in treatment is limited. As a result of the emphasis on social organization in these centers, families are often dealt with in a group setting. They

⁴ For a comprehensive view of the functioning of nursing staff in this unit see Werner, Holmes, and Lefley "Day and Night Psychiatric Treatment Centers: II—Opportunities for Creative Nursing" presented at the second annual Illinois State Psychiatric Nursing Conference held at the Illinois State Psychiatric Institute on Sept. 7-8, 1961. Mimeographed copies are available on request.

have the opportunity to share and compare experiences; to overcome feelings of uniqueness and isolation; to derive support from one another; and to begin to understand their interactions with their patient, with the rest of their family and in the group. Family group meetings do not exclude the possibility of individual contacts or of family therapy. The decision to use group or individual techniques is based on the dynamic understanding of the patient and his family structure.

The establishment of a new and different treatment facility inevitably leads to administrative problems, particularly when the facility requires a departure from traditional methods of operation. The Day and Night Centers required reorganization of existing physical facilities and an unusual degree of administrative flexibility. In addition, these units are dependent on intramural and community referrals. As a re-

sult, relationships with the remainder of the hospital and with the community assume special importance.

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THE TREATMENT OF DEPRESSION IN HOSPITALIZED PATIENTS BEFORE AND SINCE THE INTRODUCTION OF ANTIDEPRESSANT DRUGS¹

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In 1957 monoamine oxidase inhibitors were proposed as therapeutic agents in treatment of depression(1). In the same year Kuhn reported on his favorable experience with imipramine(2). It has seemed worthwhile to determine to what extent these drugs have found acceptance and have proven themselves in the field of the admission service of a large state hospital. To that end we have examined the records of the years 1955 and 1960 at Central Islip State Hospital, and have consulted with the various staff members. It is on their work, their views and their results that this paper is based; for any misunderstandings we may have of their views, we offer apologies.

Our interest in this matter arose in 1959, when we tried to assemble a group of patients for trials of antidepressant medications. On the basis of published statistics, and from the experiences of past years, we expected to find between 300 and 400 depressed patients. To our astonishment, in this hospital of nearly 10,000 resident patients, we found only 73 depressed under the age of 75, and less than 50 suitable for drug trial(3). For many years there has been a steady decline in the rate of first admissions of depressed patients into New York state hospitals(4), *e.g.*, the rates for manic-depressive and involutional depression fell from 17.1% of total admissions in 1920, to 11.6% in 1935, and 9.1% in 1950. This is a general phenomenon in the United States, commented upon by many writers; against this our colleagues in Spain, Switzerland and Scotland report no such trend in their experience.

Our first consideration then was to try to account for the drop noted and to ask: Are these patients now being hospitalized representative members of the population hos-

pitalized before the advent of the antidepressants? We immediately noted that there appears to be great fluctuation in the yearly admission rate: there were 88 manic-depressive psychoses brought to the female admission service in 1920, 106 in 1930, 42 in 1940, 22 in 1950 and 82 in 1960. This is a real fluctuation, as the same psychiatrist was in charge throughout the whole 40-year period, and those who knew her were impressed by her thoroughness and consistency. While we can not go into the social and administrative reasons for these variations, we must recognize that statistics cannot be used in this population without most careful attention to myriad details. A second question, much debated, was whether the increased EST, drugs, and psychotherapy in extramural practice reduce the number of patients requiring hospital care, whether this alters the clinical picture of those who are admitted, and whether this biases the type of depression admitted in favor of those not benefited by the therapies available. As to this we have some affirmative evidence, but it turns out other than expected. We had 202 patients admitted in 1955 with one or another of the following diagnoses: senile psychosis with depression; involutional melancholia; manic-depressive (depressed or other); alcoholic psychosis with depression; reactive depression, and a small scattering of other diagnoses with depression as a major manifestation. In 1960 we admitted 248 such patients. A breakdown by age, sex and diagnosis revealed that there were fewer of the older patients with manic-depressive and involutional disorders in 1960, more than made up by the increase in the younger persons with more psychoneurotic and reactive depressions. For this we have a ready explanation: publicity of improved conditions at the Central Islip State Hospital has resulted in a rise of voluntary admissions from 3% in 1955 to 40% in 1960. We are now admitting

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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many patients who would never have come in under certification procedures. As to whether we have fewer of the older psychotic reactions because of improved extramural therapy we have no data at all.

We have also raised the question whether cultural changes in the past 50 years, within the area from which our patients come, have shifted the clinical pattern of illness. Depression is intimately connected with inability to express one's feelings in words. Certainly we have become a more outspoken people in the past 50 years, and we no longer hear, "Children should be seen, not heard." If normal grief and sadness are manifestations of submission under defeat suffered in a conflict with reality (loss of loved one, personal injury and disfigurement), and if melancholia and depression are manifestations of submission under defeat in a conflict with "superego" (not living up to conscience, inability to live according to desired mode out of respect for a family), then the frequency of and the psychologically permissible operations under defeat must change with social conditions. It is a commonplace in institutional experience that a large proportion of patients diagnosed manic-depressive in early life exhibit increasing thought disorder and eventually are called schizophrenic. We do not wish to enter this field of polemic, but we have wondered whether further and repeated hopeless defeats following upon a resurgence of hope may be a condition for the development of the schizophrenic picture. If so, then partially successful extramural therapy could result in first admission of patients as schizophrenics who had come originally for treatment as depressive reactions.

This last point raised one final set of questions which we must briefly consider as bearing on the diagnosis of depression and evaluation of the treatment of those so diagnosed. The various clinical aspects of defeat, despair, hopelessness, discouragement, unhappiness, and so on are so manifold that they may be discerned at one or another level of observation and in every imaginable context. Ayd(5) has written extensively along these lines, but the psychoanalytic literature is replete with the evidence that in one way or another de-

pression, of whatever degree, is ubiquitous. In order to limit ourselves to a study which we could carry out we have, with knowledge beforehand, defined as examples only those patients diagnosed by our staff as suffering one of the disorders named earlier.

It is to the treatment of these patients we now direct attention. These treatments reflect the philosophy of the physician in charge of the service, modified by the combined experience and attitudes of the various staff members, including the higher administrative officials. In a very large hospital the weight of responsibility for large numbers of patients, as well as to the community, demands a degree of reluctance in the adoption of new procedures. We cannot follow hot after every view-halloo. A new procedure is tried tentatively, once, twice, more times; if it looks favorable, trial is extended and intensified. It is in this phase that we seem to find ourselves now at Central Islip with respect to the antidepressants, and it is in this context that we present our data.

Where treatments are given according to a wide variety of rules it is most difficult for a follow-up to assign outcome to one or another course of action. As we reviewed the patients' folders, and discussed matters with the staff, we were often puzzled and uncertain as to how to categorize a treatment schedule. Beyond this, of course, we had not a single clue as to the meaning of any treatment to the individual patient, nor did we have any clue as to the social relations which might have been related to illness or to recovery. This serious flaw is, of course, found in nearly all, if not in every drug report we have ever seen. We cannot condone it; we must merely report it. We have tried to use our best judgment in setting down treatments as if they were singular and mutually exclusive.

First, the antidepressants must compete in effectiveness with no treatment, with EST, with phenothiazines, with other drugs, and with psychotherapy. As to the last-named, this has been of such irregular nature, never fully intensive, that we must consider it as a random factor. The usual stimulants and sedative-hypnotic drugs have been used as occasion suggests, not as the basis of therapeutic regimens; our ex-

perience, like that of the rest of the world, generally is that they are symptomatically useful and even valuable, but do not influence the course of depression in a hospitalized patient.

TABLE 1
Duration in Hospital by Diagnosis, all Therapies

		0-12 MONTHS	12-24+ MONTHS	DIED	REMAIN IN HOSP.
Senile psych.	1955	: 5	: 8	: 11	: 1
	1960	: 7	: 1	: 6	: 0
Invol. mel.	1955	: 42	: 22	: 6	: 7
	1960	: 29	: 7	: 0	: 10
M-D, dep.	1960	: 34	: 1	: 1	: 6
	1955	: 43	: 9	: 3	: 1
M-D, other	1960	: 35	: 9	: 2	: 16
	1955	: 25	: 3	: 1	: 2
Other diag.	1960	: 70	: 4	: 1	: 9
	1955	: 34	: 10	: 5	: 2

In Table 1 is presented the duration in hospital by diagnosis of the patients admitted with depressions in 1955 and 1960. On the one hand we note that there were a number of deaths in all diagnostic groups and, as would be expected, more in the seniles. These deaths do not reflect suicides, of which there was one, but rather intercurrent or concurrent physical diseases, chiefly in the older patients. On the other hand, we note how few patients remain in the hospital more than 12 months, and how very few more than 24 months. Of the 202 admitted in 1955, after 24 months there were only 13 in the hospital; of 248 admitted in 1960 only 41 (and these were leaving at the rate of 3-6 a month as our study closed). It is also noted that the discharge rate was high for all diagnostic categories.

In our 1961 study we were struck by the number of patients who improved and were discharged with no special therapy. In this present work we were struck equally by the evidence that a great percentage of the patients showed marked improvement almost as soon as they were admitted and before any special therapy. This seems to

be so particularly for those who attempted suicide; by diagnostic group the reactive depressions seem to respond well to simple hospitalization. In 1955, 50 patients had no special treatment, yet 38 of them were discharged alive; 10 others, too ill for treatment of depression, died. In 1960, of 36 patients well enough to receive treatment but who did not have any special therapy, 21 were discharged alive. It is of interest that in both years there were significant numbers of involutional melancholias and manic-depressive psychoses among these. The rate of "spontaneous recovery" in these patients cannot be ignored in evaluating therapeutic regimens.

We must further remark on the occurrence of spontaneous remission or of long-continued resistance to treatment which seems to occur in clusters. It strikes us that certain patients on the ward at one time or another, or some group of social forces in the environment, play great roles in determining the occurrence of these clusters. This is another of the many complications in evaluating drug therapy.

The number of patients who received EST was not greatly in excess of those who had no special therapy: 61 in 1955; 39 in 1960. Their discharge rates were much higher, however: 95% in 1955; 79% in 1960. We cannot attach importance to minor variations in recovery rates by EST among the various diagnostic groups. We note, however, that the increasing rate of admission of younger patients with reactive depressions, depressions associated with alcoholism, and neurotic depressions has largely been of voluntary nature. These patients rarely require or give permission for EST, a fact reflected in the drop in the EST rate between 1955 and 1960. This drop is not due to the increased use of new drugs. On the other hand, much of the increased use of new drugs is due to factors which produced this drop.

Judgment is most difficult: in the use of drugs some patients had a few ESTs, with some improvement before the drug was administered; some had EST with partial relief of depression but with residual or increased anxiety which was treated by drug; in some the drug was used intermittently, or for a time before improvement

set in; in still others, the percentage of which we cannot say, improvement set in shortly after the drug administration began. In those patients who had considerable thought disorder, whom we might call schizo-affective, the phenothiazines were undoubtedly useful. These agents, too, were particularly employed when agitation and anxiety predominated over depressive signs. In Table 2 it will be seen that the use of phenothiazines did not change much between 1955 and 1960.

TABLE 2
Prognosis With Use of Phenothiazines and Antidepressants, by Duration and Outcome

		0-12 MONTHS	12-24+ MONTHS	DIED	REMAIN IN HOSP.
Phenothiazines	1955	: 53	: 8	: 12	: 15
	1960	: 60	: 6	: 2	: 10
MAO inhibitors and Tofranil	1960	: 32	: 0	: 0	: 6

With respect to the antidepressants it is of interest that experienced clinicians chose only 38 of 248 depressed patients admitted in 1960 to be treated by these newer agents. Thirty patients of the 1960 group were treated with MAO inhibitors. Of these, 27 were discharged within the observation period. Eleven were psychoneurotic depressions, 8 were manic-depressives and 8 were involutional melancholias. The brief hospital stay of the involutional melancholic patient is truly remarkable: 5 were discharged in less than 3 months. Those with long memories will recall the 3- to 5-year stay of such patients prior to 1940.

Of the 8 patients treated by imipramine in the 1960 group, 5 were discharged, with a hospital stay of more than 3 months each. Consultation with our staff revealed that there was, in 1960, some hesitation in adoption of imipramine and amyltriptyline, particularly since such excellent results were to be had by other therapies. In 1961 the use of imipramine increased and is apparently displacing the other drugs. However, it is still too early to use our data to discuss this point.

There is no doubt that there is a great

change occurring in the nature and degree of depressions found in New York state mental hospitals. In our search for depressed patients we could not find one with the severe degree of depression so often described and pictured in textbooks of 20 and more years ago. The descriptions by Kraepelin in his *Manic Depressive Insanity and Paranoia* (6) have no present-day examples. It used to be that the majority of depressed patients were in maximum security wards and precautions against suicide were among the most important preoccupations of the ward personnel. Not now! The depressed patients are on admission services, frequently on open wards and many have honor cards. In the years 1960 and 1961 there were only 5 seriously suicidal patients on the admission service. Three were schizophrenic and 2 were alcoholic.

The value of EST has been so great that there has been a reluctance to turn to drug therapies. Nonetheless, the antidepressants are becoming accepted and used in selected cases. As their range of usefulness becomes known with more experience, we may expect even better results. Beyond this, the atmosphere of hope and emotional support offered today by many modern psychiatric hospital admission services is of enormous therapeutic value.

CONCLUSIONS

A study of the rates of admission, therapy and outcome of depressed patients at Central Islip State Hospital for the two years 1955 and 1960 is reported. A drop in the admission rate for the more severely psychotic depressions has been balanced by a rise in admission rate of reactive and neurotic depressions. The high value of EST in the severe depressions is again revealed by our data. There is evidence for high value of phenothiazines in the agitated and in the neurotic depressions. There has been surprisingly little use of the MAO inhibitors and of imipramine, despite the reported value of these drugs. The hopeful, protective and supportive attitude of admission services is in itself highly therapeutic. All in all, the present prognosis for a depressed patient admitted to hospital is highly favorable and constantly improving.

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DISCUSSION

ALFRED PAUL BAY, M.D. (Topeka, Kansas).—A century or so ago Griesinger remarked that natural cataclysms, war or civil disruption had no effect on the incidence of mental illness. Although no substantial evidence has refuted the general truth of his statement, yet there are facts such as those offered in this paper which seem to be at variance with it. The authors' experience seems to indicate that something has happened to change the kinds of depressed patients who seek their help, and comparable data on patient admissions to the Topeka State Hospital confirm their findings. Over the same 10-year period, the total admissions to Topeka State Hospital increased from 200 a year in 1950, to almost 1,000 a year in 1960. At the same time the percentage of admissions suffering from depressions rose slightly from 7% in 1950, to 9% in 1960.

However, the percentage of psychotic depressions fell from 6% to 3%, while the percentage of reactive depressions rose from 0.6% to 6.1% in the same period. In 1960, 64% of depressions admitted were called "reactive depression."

What are the possible explanations of the decrease in severe psychotic depressions seeking hospital admission? It could be an actual decrease in the incidence of such depressions—contrary to Griesinger's hypothesis. It could be that the use of other treatment facilities, such as the family physician, the general hospital, or the outpatient clinic, is serving this group of potential clients. Or, as the authors have suggested, the cultural change which encourages the substitution of expression for depression may be the responsible agent. Of these explanations, I would question very much that these cases are now being cared for by men in general practice. Actually, a well developed depression is one of the few things

which most general practitioners are reluctant to play with, and we look upon a severe depression as one of the few valid emergency situations because of the ever present threat of self-destruction.

Certainly, quite different etiological factors are at work in the several varieties of depression which our nomenclature differentiates, and it is a curious fact that in depressions associated with organic conditions, such as senility, arteriosclerosis, and metabolic diseases—about which we profess to know the least—there is the greatest reduction in admissions. On the other hand, in the psychoneuroses, where the psychological determinants (about which we feel we know so much) are predominantly influential, we have an uncomfortably large increase in incidence.

In another aspect our experience differs from that of the authors, that is, the choice of treatment. At Topeka State Hospital, where psychodynamics is the preoccupation of the staff, EST was abandoned with feelings of relief as the various chemical agents became available. Our treatment of choice has been (since 1950) and still is consistent attitude and milieu; a compulsive, demanding environment for anaclitic depressions, or an authoritarian, ego supportive and purposefully busy program for neurotic depressions. The advent of new drugs has in our hospital had the effect of removing almost the last excuse for giving EST, a result which I personally regret because I believe it can dramatically shorten a protracted and obstinate course in some of these patients.

Dr. Merlis' paper does not settle as many questions as it raises. Why, for instance, do we have the steady increase in numbers of reactive depressions: is it because of the economic good-times which the country enjoys? We Americans are pretty sleek and fat. To thinking animals, such as mankind, the lack of clear cues to a course of action is in itself a stressful condition, and may produce anxiety and depression. Stressful times and stressful situations have their value insofar as they simplify decision making and choice of action.

Dr. Merlis points to the good results obtained with several kinds of therapy; even no therapy (aside from the supportive effect of being hospitalized) often brings about good clinical results. This makes one speculate on what is the objective of treatment—is it symptomatic relief, with externalization of aggression, or substitution of another defense mechanism? Is it social restoration of the patient? Or is it a reshaping of the patient's personality in such a way as to make him invulnerable to future stresses? In the public mental hospital,

where the more limited goal is more likely to be the case, what effect does this choice of goal have on the choice of treatment?

One might even ask why look for better treatments for depression than those we now have? A recovery rate of 95% (as obtained in some series) is almost comparable to that for chicken pox or measles. Of course—the obvious answer is that as long as we can provide greater hope of recovery for even one more patient than yesterday offered, we will continue to look for better treatments. As long as we can shorten the length of hospital stay by even one day we will try to do so; but with

several potent therapeutic agents at our disposal, it does not necessarily make the choice of treatment easier. It merely means that some much more critical studies of the different treatments for the various types of depression are badly needed.

It would be interesting if two or three hospitals could each commit themselves to try a different treatment regime for some specific diagnostic groups for a year, and then exchange methods for the year following. Such a co-operative study would help to reduce the effect of staff prejudices in reports of therapeutic results.

IMIPRAMINE IN DEPRESSION : A CONTROLLED STUDY

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Imipramine (Tofrānil)² was first described as an antidepressant drug in 1957 (1). Since that time, numerous reports have appeared on its use. These have, on the whole, ascribed significant effectiveness to the drug in the management of depression, but only a few (2-5) have stemmed from controlled clinical trials. Depression is influenced by many things that are obscure at the present state of our knowledge. Therefore, we believe that an evaluation of any therapy for depression should be carefully controlled. As a means of achieving such control, we chose a double blind technique.

This study was conducted at Hanna Pavilion, a 75-bed psychiatric division of the University Hospitals of Cleveland. The Hanna Pavilion has a large outpatient division where many depressed patients are treated; only the more severely ill, in general, are admitted, and only these were included in the study. Their diagnoses are shown in Table 1.

TABLE 1
Diagnoses of Imipramine- and Placebo-Treated
Depressive Patients

	DRUG GROUP	PLACEBO GROUP
Depressive reaction	17 (89%)	16 (76%)
Psychotic depression	2 (11%)	4 (19%)
Manic depressive reaction, depressed type	0 (0%)	1 (5%)

We required the presence of delusions for the diagnosis of psychotic depressive reaction and that of involutional psychotic reaction, thereby considering some otherwise "deep" depressions to be in the neurotic category, i.e., depressive reaction.

Every staff (non-private) patient admitted with one of these 3 diagnoses was

assumed to be on the study. (We also would have included patients with a diagnosis of involutional psychotic reaction, but none happened to be admitted during the period of the study.) Provision was made, however, to exclude or drop patients from the study should participation in it present a danger or hardship. Two patients were thus excluded and one was dropped.

After a patient had entered the study, he was evaluated by a senior psychiatrist and was in addition given a battery of psychological tests. Tests were chosen that yield objectively scored estimates of a variety of emotional, language, motor, and perceptual functions and included the Minnesota Multiphasic Personality Inventory (MMPI), the Trail Making Test, Wechsler's Digit Span and Digit Symbol tests, and a finger-tapping test. Serum bilirubin, serum transaminase, hematocrit, and white blood count and differential were determined. When these baseline studies were completed, the patient was assigned to either the drug or placebo group on the basis of a scheme of randomized numbers.

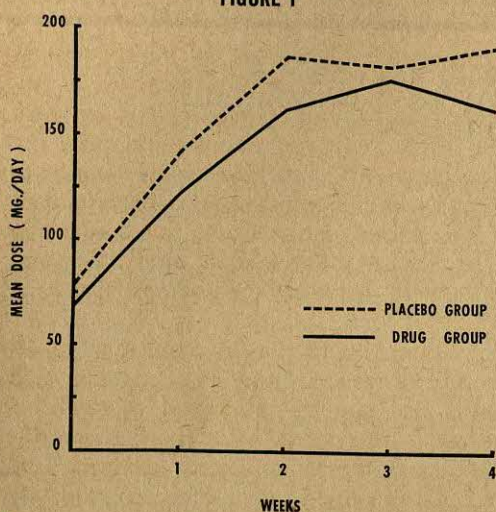
In the interest of achieving a natural clinical situation, the patient's physician was given free choice regarding dosage of the tablets, amount and form of psychotherapy, and selection of such ancillary measures as occupational therapy. He was urged, however, to acquaint himself with the recommendations of the manufacturer and investigators for the use of the drug. The only restrictions imposed was against the use of additional "psychotropic" drugs other than barbiturates during the period of the trial. As we were attempting to isolate a pharmacologic effect, we thought it important to minimize such a variable as the actions of other drugs.

The mean doses of the drug or equivalent of the placebo are shown in Figure 1. The differences between the mean doses in the 2 groups are not significant ($p=.20$). These doses are in the range that the manufacturer and various investigators report as

¹ University Hospitals of Cleveland and the Dept. of Psychiatry, Western Reserve University School of Medicine.

² Tofrānil tablets and matching placebos were generously supplied by Geigy Pharmaceuticals, Yonkers, New York.

FIGURE 1



therapeutic(6-8). Although such things are not easily quantitated, we think that the 2 groups may be considered also to have received comparable management in the way of psychotherapy, adjuvant measures, and exposure to various features of the hospital milieu.

The length of the trial for each patient was 4 weeks, during which time the blood studies noted were repeated weekly, but the patient was not otherwise formally evaluated. We believe a 4-week trial was sufficient, in that reports suggest that if imipramine is to be effective it will most likely be so during this period of time. Also, practically speaking, any non-psychotherapeutic antidepressant measure that requires more time than this is of limited usefulness, considering the usual prompt efficacy of ECT in the type of patient we were studying. A few patients were enough improved before the end of the 4 weeks to be discharged early and to receive their final evaluations as outpatients. Otherwise, at the conclusion of a trial a patient was again evaluated in the same manner as he had been initially. Following this evaluation, the patient's regular physician chose what additional treatment, if any, he felt was needed for the patient.

As an aid to objective evaluation, we devised the rating scale shown in Table 2.

TABLE 2
Clinical Rating Scale for Evaluation of Depressed Patients

	0	1 (MILD)	2 (MODERATE)	3 (SEVERE)	WEIGHTING COEFFICIENTS
1. Food intake and weight loss	Normal	Anorexia without weight loss.	Weight loss less than 10% of body weight.	Weight loss more than 10% of body weight.	3
2. Insomnia (night sleep)	7/8 of normal amount or more	Normal amt. of sleep on a single hypnotic dose of sedation.	Normal amt. of sleep obtained with 2 or 3 times the hypnotic dose of sedation.	Sleepless. (Normal amt. of sleep not obtained on 3 times hypnotic dose of sedation.)	3
3. Loss of self-esteem	None	Feeling not worth as much as before.	Feelings of worthlessness.	Delusions of guilt.	2
4. Functional somatic complaints	None	Present but not complaining spontaneously.	Complains spontaneously.	Somatic delusions.	1
5. Suicidal content of thought	Not present	Wishes himself dead.	Suicidal thought without plan.	Definite plan to commit suicide.	3
6. Anxiety	Not present	Subjectively observed only.	Anxiety objectively observable but not incapacitating.	Incapacitating. (Pacing, hand wringing, patient unable to sit still.)	2
7. Stream of talk	Normal	Feels retarded but not apparent to examiner.	Present but can talk in sentences.	Unable to talk in sentences.	2
8. Level of activity	Normal	Normally active but does not want to be.	Less active than usual.	Inactive.	2

The items in the scale were chosen and their criteria defined by the authors of this paper. The items were then weighted according to a system of coefficients derived from the polled opinions of 3 psychiatrists. The purpose of weighting the items was better to estimate their relative practical importance in the assessment of depression. To increase precision the same psychiatrist, using this rating scale, evaluated all the patients in the study.

RESULTS

Weighted scores for each patient were obtained from the rating scale by multiplying the numerical judgment for each item by the weighting coefficient for the item, adding the products thus obtained, and dividing by the sum of the weighting coefficients. The higher the score, then, the greater the degree of depression indicated; the greater the difference between the initial and final scores, the greater degree of improvement shown during the period of the trial. The scores were then analyzed in two ways: by comparison of the means for the two groups, and by comparison of patients paired by severity of depression indicated in the initial ratings. The results are shown in Table 3.

TABLE 3
Clinical Rating Scale Results for Imipramine- and
Placebo-Treated Patients Before and After a
Four-Week Medication Period

RATING SCALE TOTAL SCORE	DRUG GROUP	PLACEBO GROUP
A. Comparison of Means		
Before treatment		
N	19	21
Mean	1.39	1.41
SD	0.32	0.31
After treatment		
N	18	21
Mean	0.68	0.87
SD	0.55	0.71
Difference between before and after treatment scores		
N	18	21
Mean	0.71	0.54
SD	0.45	0.66
t ratio		0.98
p		.40
B. Comparison of Matched Pairs:		
p=.48		

On the basis of the clinical rating scale, the patients in the drug and placebo groups were equally depressed at the beginning of the trial. Both groups of patients improved during the course of the trial, with the drug group improving more than the placebo group; but this greater improvement was not significant ($p=.40$). Analysis of the paired patients also failed to show a significant difference in amount of improvement between the two groups ($p=.48$).

A common practice in reporting the effects of drugs is to describe changes in such terms as "slightly improved," "good response," "recovered." We think these distinctions rather vague and arbitrary and are not inclined, therefore, to indicate levels of improvement on the basis of our clinical rating scale, even though our results are quantitative. We believe, however, that certain pragmatic tests can be used to establish such levels. For example, at the Hanna Pavilion a depressed patient is usually not discharged until he has improved to a point at which little, if any, depression remains. The fact of a patient's discharge thus establishes a certain practical level of improvement. Some patients in the study were discharged prior to, or at the conclusion of the 4-week period, thereby indicating that they had reached this level of improvement within the trial period. The other patients remained in the hospital for various periods of time and received further treatment. Those patients with the most refractory depressions were generally given ECT. We think that useful indices of imipramine's efficacy are provided by comparisons of the drug and control group as regard discharge during or at the conclusion of the trial, length of hospitalization beyond the 4-week period, and ultimate use of ECT. Table 4 summarizes these data.

Here again it can be seen that we found no statistically significant difference between the drug and control groups.

A claim has been made that imipramine reduces the number of ECTs needed should the drug itself not effect sufficient improvement to obviate their use (9, 10). Patients in the drug group who eventually received ECT required a mean of 6.4 treatments, those in the placebo group a mean of 8.0

TABLE 4

	DRUG GROUP	PLACEBO GROUP
Number of patients discharged during or at the conclusion of the trial	4 (21%)	5 (24%)
Mean number of days of hospitalization beyond period of trial	27	28
Patients eventually receiving ECT before discharge	5 (26%)	7 (33%)
	(p=.89)	

treatments. The difference is not significant ($p=.44$) and our data thus fail to support the claim.

Analysis of the MMPI showed improvement in both groups, except that the placebo patients scored slightly worse on scale *Hy*. The mean standard score for the 9 MMPI clinical scales yielded a significant difference ($p<.025$) in favor of the drug group as did 5 of the individual scales (*Pt*, $p<.01$; *Hs*, *D*, and *Sc*, $p<.05$). Of the tests of language, motor, and perceptual functions, only Digit Span yielded a significant difference ($p<.001$). Whereas the placebo patients improved their digit span, the drug patients showed a poorer mean performance after treatment. The memory component of Digit Span is considered to be minimal, and it is assumed that the test essentially measures attention(11, 12). Imipramine has a well established central nervous system depressant action(13). The dysfunction in this test shown by the imipramine patients may therefore reflect a decreased sensitivity to environmental stimulation. Such a drug effect might thus also have served to reduce deviant MMPI responses, particularly on scales heavily loaded with items pertaining to anxiety and physical complaints. This seems to have been shown by our patients, in that MMPI items relevant to feelings of anxiety and physical malfunction are most heavily represented in those scales that differentiated the drug and placebo groups. The scale that differentiated most strongly was the *Pt*, a measure highly correlated with anxiety. The *D* scale, while showing results favoring the drug group, attained the lowest *t* value of the scales that proved significant. This scale, however, is known to consist of heterogenous

factors and corresponds only partly to the clinical definition of depression(14). In our rating scale we chose to assign weighting coefficients of relatively low value to "functional somatic complaints" and to "anxiety," which may explain part of the difference in results from the rating scale and MMPI. Data from the psychological tests, then, suggest that imipramine has a measurable effect, but not one specific to depression.

No detailed study was made of side-effects, but certain qualitative impressions were obtained. There were no serious untoward reactions to the drug. One patient receiving it developed a rash, but this cleared with slight reduction in dose. Two patients in the placebo group had syncopal episodes that were thought at the time to be "drug effect." Such symptoms as dry mouth, excessive perspiration, and dizziness occurred in some patients but were on the whole mild—and were not restricted to the drug group. The weekly laboratory studies showed no abnormalities in any of the patients.

A problem in the performance of a double blind study can arise from the curiosity of personnel as to the identity of the medication being dispensed and their attempts to distinguish drug from placebo. The physicians who participated in the study were asked which type of medication they had thought, during the trial, each of their patients was receiving. Only 57% of their estimates were correct: 23% mistook drug for placebo and 20% placebo for drug.

DISCUSSION

In this study, imipramine was found not to be superior to the placebo in the treatment of depressive disorders in our patients in our hospital setting. There were significant differences in several of the psychological tests favoring the drug and appearing as evidence that imipramine has some measurable psychopharmacologic actions. These actions, however, did not seem to be of practical benefit to our patients, in that every criterion of clinical improvement we applied failed to show a significant difference between the drug and placebo groups.

This is not to say that patients who received the drug failed to improve. They did improve as a group, but not significantly

more than did the placebo group. There were several individual patients who received the drug and showed very marked improvement, but this was also true of several of the patients who received the placebo. Without the use of controls, our clinical impression of the drug would have been speciously more favorable.

Reports on the use of psychiatric drugs have often shown striking differences in the effectiveness that they attribute to a given drug. Such diverse findings may be due to lack of controls, to improper selection of patients, to differing diagnostic formulations among investigators, to the difficulties in assessing change objectively, to the inclusion of drugs other than the one supposedly being tested, or to lack of statistical analysis. At times, however, none of these seem clearly at fault, and the variation in therapeutic results defies explanation. It was not within the scope of this study to investigate such a basic problem in drug evaluation. Its existence must always be kept in mind, however, if drugs are to be used rationally in psychiatry and if the total therapeutic process is eventually to be understood.

SUMMARY

The antidepressant drug imipramine was evaluated by means of a double blind study. Therapeutic results were assessed on the basis of a rating scale, psychological tests, and clinical course. Differences favoring the drug were found in some of the psychological tests, but in no clinical area were

there significant differences between drug and placebo.

We wish to thank Dr. Glenn Bartsch and Dr. George Badger for their help with the design of the study and with the statistical analysis of its results.

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PSYCHIATRIC REACTION PATTERNS TO IMIPRAMINE¹

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Clinical psychiatric experience demonstrates a wide range of variation in behavioral responses to physiological therapies. Present techniques of evaluating therapies by global improvement scores, imprecise diagnostic classification, and target symptoms abstracted from their context were felt to be methodologically inadequate. Following our experience in describing the behavioral reaction patterns to convulsive (4) and phenothiazine (6) therapies, a similar analysis of the data derived from imipramine (Tofranil) therapy was undertaken.

In this report various patterns of behavioral response to imipramine are described; and the relationship to such factors as age, sex, pretreatment behavioral pattern, hospital diagnosis, and hospital discharge evaluation are assessed.

METHOD

Hillside Hospital is a 196-bed, open ward, voluntary psychiatric facility for the treatment of patients with early and acute mental disorders whose stay is independent of their ability to pay. All patients are seen in individual psychotherapy, with the expectation that psychotherapy should be given a trial prior to other measures. Somatic therapies are employed by joint decision of the resident therapist and supervising psychiatrist, with the management of medication restricted to the research staff.

Before starting medication each patient is interviewed by a research psychiatrist. During drug therapy the patient's response is assessed in weekly interviews with both the patient and ward personnel, reviewing changes in mental status and hospital ad-

justment. In biweekly conferences with the psychiatric resident and his supervisor the patient's progress in psychotherapy, affective and symptomatic state, utilization of hospital facilities, and social and familial relationships are discussed.

When it was evident that the standard diagnostic nomenclature was of little use in categorizing behavioral reactions to drugs, and that psychodynamic formulations lacked predictive clarity, it was decided to derive a descriptive behavioral typology for each agent studied. The detailed longitudinal research records were reviewed and a summary statement concerning the patient's behavioral reaction during treatment was made. The patients were categorized on the basis of changes in symptoms, affect, patterns of communication and participation in psychotherapy and social activity. In each category the drug reaction was the determining feature. While no attention was paid at this point to the patient's pretreatment behavioral patterns, except as relevant to the perceived changes, inspection of these groups showed that not only did the patients share similar behavioral changes with drug therapy, but that they also showed similar behavioral pretreatment characteristics.

For certain patients no discernible change in behavior was observed. It was possible to characterize these subjects by their pretreatment behavioral patterns alone, and these patterns did not occur among those groups showing an imipramine effect.

Treatment was begun orally at 75 mg. daily and usually increased each week in 75 mg. steps, to a modal maximum of 300 mg./day in 80% of the patients.

Between October 1958 and July 1961, 215 patients received imipramine. During the early use of the drug it had not been firmly established that an adequate trial of medication required at least three to four weeks. Therefore, 13 patients who had not responded within two weeks had the medi-

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cation discontinued. In retrospect, these patients had not received an adequate course of imipramine. Records were incomplete in 3 patients and at the time of writing 19 patients had not yet been discharged. These 35 patients are not included in the data analysis.

Of the 180 remaining patients, 67 were diagnosed as psychoneurotic depressive reactions, involutional melancholia, manic-depressive reaction, or psychotic depressive reaction. Schizophrenia in various subtypes was diagnosed in 102 patients. Ten patients received diagnoses of psychoneurosis or personality disorder, and one patient was diagnosed as chronic brain syndrome. Since the use of specific affective or schizophrenic subtypes was not discriminating in our analyses, the subgroups were combined.

There were 58 men and 122 women reflecting the sex distribution of the hospital. In this population schizophrenia was diagnosed most commonly in patients below 30 years of age, and affective disorders in patients above 40. However, there was no association of diagnosis or age, with sex.

Two methods of evaluating behavioral change were used—a medication management index and a discharge evaluation. The medication management index was based on the various patterns of medication use, reflecting the decision of the therapist as to the value of the medication to the patient—actions proverbially speaking louder than words. Eight patterns were observed, three implying a favorable and five an unfavorable evaluation. Favorable medication management evaluations by the therapist were seen in 115 subjects (68%) and included patients discharged to the community with the recommendation to continue on imipramine therapy (68 patients); patients discharged to the community after imipramine was discontinued with a clinical note that it had accomplished its therapeutic goals and without other somatic therapy prior to discharge (28 patients); and patients discharged to the community to continue imipramine with concurrent phenothiazine medication (19 patients).

Patterns reflecting a therapist's negative evaluation of the behavioral response were

seen in 65 patients (32%). These included imipramine discontinued and subsequent treatment with phenothiazines or convulsive therapy prior to discharge (38 patients); imipramine discontinued with the clinical note that it was ineffective and the patients discharged without further somatic treatment (19 patients); and the abrupt ending of imipramine treatment by discharge to another inpatient facility (5 patients), suicide (1 patient), or leaving the hospital against medical advice (2 patients). In this report, the first three patterns of medication use will be referred to as "favorable medication management" and the latter five as "unfavorable medication management."

In addition, at discharge each patient is given a summary rating as "recovered," "much improved," "improved," or "unimproved" by the staff. This discharge rating is a guide to the effect of hospitalization. It is not the same as the medication management index since other treatment measures may have been interposed after the imipramine treatment. However, this measure will aid in placing the imipramine effects within the context of the general hospital psychiatric treatment. In view of the small number of patients considered "recovered," this category was combined with "much improved."

The chi square method of statistical analysis was used and all stated findings are at the .05 level of confidence or better.

RESULTS

General Medication Response. The behavioral effect of imipramine required two to three weeks to become evident for the majority of cases. An occasional case responded within a few days, and one case responded after 5 weeks of medication.

Complaints of sweating, tremulousness, dry mouth, and constipation were frequent, but interfered little with the treatment course. Two patients developed grand mal epileptic attacks (at 300 mg./day and 450 mg./day) which ceased with medication reduction or termination. There was one instance of pseudo-tumor cerebri (2) and one instance of agranulocytosis. Both occurred during the concomitant administration of phenothiazines, and may have

been unrelated to imipramine.

In 22 of 26 patients receiving imipramine in 300 mg. daily doses for periods of two months or more, and rapidly withdrawn from the drug, the occurrence of a physiological withdrawal syndrome of nausea, vomiting, headache, giddiness, coryza, chills, weakness, fatigue and musculoskeletal pain was documented (7). These symptoms were related to the length of treatment and the abruptness of the withdrawal. It was also observed that these symptoms could be minimized by gradual withdrawal over one to two weeks.

Patterns of Behavioral Response. The relation of the behavioral response patterns to medication management, hospital discharge evaluation, age, sex and diagnosis are presented in Tables 1 and 2.

1. Mood Elevation Response.

Before Treatment: These patients were depressed, self-deprecatory and hopeless. Many

patients exhibited a rigid, perfectionistic and obsessional personality, although tendencies to minimize and deny difficulty were not conspicuous. They related to the examiner in an apathetic and passive fashion, although a few patients were agitated, fearful and demanding. On inquiry, they complained of anorexia, insomnia, unhappiness, loss of interest in their activities, and inability to cope with their responsibilities, to concentrate, or to make decisions. They had difficulty in staying asleep rather than falling asleep. Somatic complaints other than insomnia, anorexia and constipation would only occasionally be in evidence. However, when present they formed a major preoccupation. Suicidal ideation and frank delusional states were infrequent. These patients did not spontaneously participate in ward activities and if activity was not stimulated and guided they lapsed into apathetic indifference.

With Treatment: There was a marked decrease in expressions of disinterest in the environment, apathy, depression, suicidal rumination, retardation, agitation, insomnia and anorexia. Participation in hospital activities and

TABLE 1
Behavioral Response Patterns, Medication Management, and Hospital Evaluations

BEHAVIORAL RESPONSE	N	% FAVORABLE MEDICATION MANAGEMENT	HOSPITAL DISCHARGE RATING		
			% UNIMPROVED	% IMPROVED	% MUCH IMPROVED & RECOVERED
Mood elevation	67	96%	0%	63%	37%
Explicit verbal denial	22	95	0	59	41
Manic	10	40	10	60	30
Reduction episodic anxiety	14	100	0	79	21
Agitated disorganization	19	5	58	42	0
Anhedonic socialization	8	63	25*	50	25
Non-response	40	15.	38	55	7
Total	180	62%	16%	59%	25%

TABLE 2
Behavioral Response Patterns, Sex, Age and Diagnosis

BEHAVIORAL RESPONSE	N	% MALE	% AGE <=30	DIAGNOSIS		
				% SCHIZOPHRENIA	% AFFECTIVE DISORDER	% OTHER
Mood elevation	67	31%	43%	49%	46%	5%
Explicit verbal denial	22	32	9	14	86	0
Manic	10	20	40	60	40	0
Reduction episodic anxiety	14	43	43	43	14	43
Agitated disorganization	19	63	95	100	0	0
Anhedonic socialization	8	25	88	100	0	0
Non-response	40	18	50	68	28	4
Total	180	32%	48%	57%	37%	6%

social relationships increased. Complaints of tension and apprehension relating to difficulties in discharge planning and returning to the community remained, however, with anxious procrastinating attempts to evolve a foolproof plan. Symptoms frequently increased prior to discharge.

Mood elevation was a response frequently associated with favorable medication management and hospital discharge evaluation. Special relationships to age, sex or diagnosis were not evident.

2. Explicit Verbal Denial Response.

Before Treatment: These patients closely resembled those described under mood elevation, although there was more denial and minimization of their difficulties which were usually referred to external events or bodily states rather than emotional distress.

With Treatment: As with mood elevation, depressive symptoms decreased and goal-directed action increased. In contrast to mood elevation, all complaints and difficulties were denied, the patients stating that they were entirely well and should be discharged forthwith, disregarding realistic familial and economic difficulties.

The explicit verbal denial response was generally associated with favorable medication management, an older age group, and a diagnosis of affective disorder. This group received the most favorable hospital discharge evaluations, probably as a consequence of their gross denial of residual difficulties.

Comment: These patients possessed many of the premorbid personality attributes described by Kahn and Fink(5) as characteristic of patients who responded well to convulsive therapy. Specifically, they were minimizing, denying of difficulty, non-empathic, non-introspective, communicating non-verbally, highly conventional and stereotyped.

3. Manic Response.

Before Treatment: These patients resembled closely the patients described under mood elevation response.

With Treatment: They first exhibited explicit verbal denial, but then became vociferous with a great display made of their logic as opposed to others illogic. There were periods of psychomotor acceleration accompanied by flights of ideas, loss of frustration tolerance, and lack of self-criticism. In psychotherapy, aggressive verbal attacks upon significant life

figures, most frequently spouses and mothers, became common with much talk of divorce or moving away from home. Long standing resentments, previously dealt with by submissive denial, became the focus of therapy with prominent attempts to gain the therapist as an ally against relatives. If this alliance was denied, the patient became hostile and accusatory towards the therapist. Their demanding hostility frequently led them into dictatorial, manipulative, and derogatory attitudes towards both staff and patients. They energetically participated in numerous hospital activities with great self-confidence, occasionally becoming the nucleus for a clique of hostile and negativistic patients. Delusions and bizarre activity did not occur.

Cessation of imipramine medication did not result in a reversion to their previous state, and interruption of this response by large doses of phenothiazine was usually necessary, and helpful.

Manic response was associated with a moderately unfavorable medication management. No special relationships to age, sex, or diagnosis were observed, although the 4 cases of affective disorder showing this response were diagnosed as manic-depressive disorder. There were, however, 15 other subjects with the same diagnosis who did not show a manic response to imipramine.

These patients' medication management classification as unfavorable was determined by their imipramine being replaced by phenothiazines; however, their subsequent improvement resulted in an average discharge evaluation.

4. Reduction of Episodic Anxiety Response.

Before Treatment: Typically, subjects noted the sudden onset of inexplicable "panic" attacks, accompanied by rapid breathing, palpitations, weakness, and a feeling of impending death. Their activities became progressively constricted, until they were no longer able to travel alone for fear of being suddenly rendered helpless while isolated from help. Depressive complaints were infrequent and associated with feelings of futility. Although fear of open spaces was not the hallmark of this condition but rather expectant fear of lack of support when overwhelmed, their condition was often referred to as agoraphobia. They engaged in prolonged outpatient psychotherapy, usually devoted to the exploration of unconscious sexual and aggressive impulses, with the interpretation of the phobically barred areas as situations of forbidden sym-

bolic temptation. Hospitalization occurred after the family could no longer tolerate the restrictions placed upon them.

With Treatment: Under imipramine treatment the "panic" attacks ceased, although both phenothiazines and sedatives had been previously ineffective. However, the patients were reluctant to change their phobic behavior pattern and required much persuasion, direction and support. Their social interaction increased markedly with a surprising rise in aggressive self-assertion and rejection of domination.

The reduction of episodic anxiety response was usually associated with a favorable medication management. This was the only group with a large proportion of psychoneurosis and personality disorder diagnoses. There was no special relationship to age or sex.

Comment: The reaction to imipramine is of considerable interest since the "anxiety" of the panic attack is sharply diminished while expectant "anxiety" related to the "phobic" patterns remains. The use of the common term "anxiety" may thus obscure an underlying difference in these processes.

Bowlby(3) has emphasized that separation anxiety does not have to be learned via noxious experiences of separation. In this view, separation anxiety has the biological function of evoking the retrieving and mothering response in a parent and is an innate mechanism of social control. One may speculate that imipramine, in these patients, has some specific reparative effects upon this disordered mechanism.

5. Agitated Disorganization Response.

Before Treatment: These patients were withdrawn, preoccupied, defensive, suspicious, minimizing and denying. After specific questioning they admitted to ego-alien thoughts but conveyed the impression that their hospitalization was a mistake. Their affect was flat, frequently inappropriate, and apathetic, they appeared to consciously suppress delusional material.

A history of poor social, education and vocational attainment was uniformly present, with many indications of childhood disorder.

They spoke little and by confining themselves to stereotyped utterances preserved a façade of being rational and relevant. However, any extended speech revealed peculiar and bizarre language patterns with neologisms and autistic word usage. Formal thought disorder was evident, with over-concreteness,

over-abstraction and loose associations. Psychotherapy was a barren experience as the patients made no effort to relate to their therapists and avoided any discussion of their feelings.

Social contact was actively rejected, the patients remaining isolated on the wards or roaming aimlessly about the grounds. At times they were prankish, eccentric and unpredictable and at best cooperated passively with ward routines and activities.

With Treatment: They first developed an inappropriate euphoria, which was often misinterpreted as the onset of improvement. This was soon followed by bizarre, disorganized, aggressive hyperactivity associated with intolerable tension, fragmentation of thought and marked somatic and paranoid delusions. This response uniformly required the interruption of imipramine treatment and the immediate use of convulsive or phenothiazine therapy.

Agitated disorganization was associated with a negative medication management evaluation and occurred mostly in young, schizophrenic males. This behavioral reaction was a grave prognostic sign as 58% of these patients were discharged "unimproved" and none considered "much improved" or "recovered," despite subsequent treatment.

Comment: Of interest is the marked similarity of this group of patients to those described as having the reaction pattern of autistic compliance to phenothiazines(6). The predominance of males is similar to the sex ratio of childhood schizophrenia.

6. Anhedonic Socialization.

Before Treatment: These patients related to the examiner in a discouraged and dependent fashion with manipulative tendencies. They spontaneously grumbled of an anxious depression, also the observed affective display was less than the extensiveness of their complaints. These complaints concerned fluctuating feelings of withdrawal, anxiety, tension, depression, depersonalization, phobic compulsions, ruminative thoughts, and inertia. A lack of feelings of pleasure and competence was prominent.

They were rational, relevant and coherent, and described their complaints in abstract psychiatric terms. It was difficult to obtain a specific connected story concerning their symptomatology. If the psychotherapist indicated certain strengths, this was immediately met by a burst of self-derogatory expressions. Many of these patients had previously received pro-

longed outpatient psychotherapy.

They associated with similar patients in tight cliques, preserving a friendly relationship. While few of the hospital activities were interesting to them they stayed active rather than withdrawn. They frequently had a history of good social and educational achievement marred by a pervasive anhedonia.

With Treatment: This group manifested an increase in alertness, definiteness and precision. Dependent demands were diminished. Their verbal affective complaints were modified only slightly, although they appeared to be less anxious and depressed. Symptoms of apathy and inability to function were alleviated, while feelings of depersonalization, phobic compulsive and ruminative thoughts were maintained. The effects of the medication were minimized by the patients, yet their symptoms exacerbated on medication withdrawal.

In psychotherapy a degree of overt self-assertion became apparent, associated with some guilt and apprehension over aggressiveness. They became more active, dressed more attractively and associated with more people, achieving responsible positions in their ward or peer group organizations. Hospital activities were utilized more fully and in a more interested fashion.

This response was associated with a favorable management evaluation. This group consisted of young schizophrenic patients without relationship to sex distribution or hospital outcome. The only suicide in this study occurred in this group.

7. Non-Responding Patients.

No significant behavioral changes were observed in 40 patients. In pretreatment characteristics, these subjects were classified into a few subgroups.

A group of 13 patients showed histrionic labile affect, with depressive, fearful, paranoid and agitated displays rapidly alternating with affable friendly periods. Their lability made evaluations of drug effect very difficult, requiring long observation periods before an evaluation could be made. The histrionic manipulative character of these patients gave the impression that their affective displays were goal-oriented and ludic devices for manipulation of the environment rather than direct expressions of internal distress. Phenothiazine medications were also ineffective in modifying their behavior.

Other patients had a variety of syndromes with the common thread of marked fixity of symptomatology over a period of years prior to hospitalization. These syndromes were so-

matic preoccupation (10 patients), obsessional rumination (6 patients), fearful paranoid referential states (4 patients), and a variety of schizoid and psychopathic character disorders (7 patients). Phenothiazine medications were also ineffective in modifying their symptoms.

The "non-responders" were preponderantly female without a special relationship to age or diagnosis. Hospital outcome was poor.

Relation of Age and Diagnosis to Medication Evaluation. By grouping the subjects according to medication management, age and diagnosis, we observed that the percentage of favorable medication management is approximately 51% for schizophrenia, and 79% for affective disorder, at all age levels. We would conclude that diagnosis is more closely related than age to clinical evaluations of imipramine therapy.

CONCLUSIONS

Imipramine appears to be a safe and valuable medication in the treatment of a variety of psychiatric conditions. It produces various behavioral change patterns that are related to both the personality of the patient and the symptom pattern of the illness. While these response patterns cut across the usual nosologic categories, there is a significant statistical relationship to the distinction between schizophrenic and affective disorders. These patterns of behavioral response are highly associated with pretreatment behavioral patterns, and further study may serve to define subgroups whose response to imipramine can be predicted with high probability.

Similar observations are reported by Ayd (1) in a review of the current status of the "major antidepressants." Allowing for differences in terminology, his findings closely parallel our own. For example, Ayd notes:

Dramatic therapeutic results were seen in those patients often diagnosed anxiety hysteria because their depression was overshadowed by severe anxiety with hysterical features. [They] . . . had good pre-illness personalities despite an anxious, phobic temperament. In contrast to the classical endogenous depressive, these patients had a normal sleep pattern or insomnia, which readily responded to barbiturate hypnotics, rather than an early morning awakening. Usually they complained of feeling

worse as the day wore on. They had little appetite disturbance and no great weight loss. They had many somatic complaints. Seldom were they self-depreciatory. They detested being alone, were voluble, anxious, and tremulous and exhibited psychomotor stimulation instead of inhibition . . . Tranquilizers invariably made them feel worse, ECT enhanced their anxiety . . . When treated with an antidepressant they reacted promptly . . .

The personality organization and behavioral response of these patients are strikingly similar to those described as showing a reduction of episodic anxiety response to imipramine.

This response was seen by Ayd as indicating that in these patients "depression was overshadowed by severe anxiety." In similar fashion, others have referred to "underlying" or "masked" depressions. The basis for these formulations appears to be the positive behavioral response to "antidepressants," as the classical signs and symptoms of depression are not clinically manifest. Yet, these patients are refractory to convulsive therapy, which should lead to the inference that they do not have an "underlying" depression.

Such terms represent *ad hoc* formulations that obscure common characteristics distinctive in these patients. In an earlier study (6) we indicated that the behavioral patterns after phenothiazine medication are related to the antecedent behavior, as seen in characteristic adaptive mechanisms, communication patterns, affect, symptoms, psychotherapy participation and social activity. The responses to medication may be used as dissecting tools to uncover various subpopulations and to permit the discovery of specific developmental, physiological, psychological and social similarities within each subpopulation. These common characteris-

tics may also clarify questions of etiology and pathogenesis of psychiatric disorders, and provide rational indications and contraindications for drug therapy. The observations with imipramine reported here suggest that these generalizations may be true for a wide variety of psychotropic agents.

SUMMARY

1. One hundred and eighty voluntary inpatients (102 schizophrenic subjects, 67 subjects with affective disorders, and 11 "other" diagnoses) were studied during treatment with imipramine.

2. Seven imipramine induced behavioral reaction patterns and their relationships to diagnosis, age, sex, patterns of medication use, and hospital discharge evaluation are presented. These include mood elevation, explicit verbal denial, manic, reduction of episodic anxiety, agitated disorganization, anhedonic socialization, and non-response.

3. Imipramine was favorably evaluated in 79% of subjects with affective disorders and 51% of schizophrenic patients.

4. The use of psychiatric reaction patterns to psychotropic drugs for categorizing patients and providing a basis for a more rational pharmacotherapy are emphasized.

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ABNORMAL STATES OF CONSCIOUSNESS AND MUSCLE TONE IN INFANTS BORN TO SCHIZOPHRENIC MOTHERS¹

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In studies conducted since 1952 by one of the authors (B.F.), it has been possible to observe neurological deviations as early as 1 month of age in infants who later became childhood schizophrenics (6-8). The age when the transient disorganization of neurological development was the greatest varied from one child to another, producing different patterns of assets and handicaps. In some, a lag or peculiar sequence in postural or locomotor development was the most prominent; in others, confused proprioception and perception of form occurred before the onset of distorted language and social relationships. Several of these infants retained an abnormal torpid state of consciousness, remaining inactive and unresponsive, with a flaccid muscle tone in their first months of life. Others became inactive, toneless and apathetic when their development lagged or regressed at about 1 or 2 years of age (8, 10). Data on older schizophrenic children suggested that severe hypoactivity and apathy are signs of a severe disturbance that frequently ends in grossly defective intellectual and social development (9-11). The severity of the lags and disorganization varied from child to child and was expressed quantitatively by a detailed assessment of developmental progress. In general, when the early neurological disturbances were the most severe, there was greater interference with intellectual and social adaptive functioning, and less capacity for defense formation (10, 11). It was hypothesized that these transient neurological disturbances are earlier manifestations of the same underlying disorder

of integration that is manifested in adult schizophrenia by the disorganization of complex psychological functions (8). The different clinical manifestations of early childhood schizophrenia were viewed as variations on the common theme of a basic disturbance in neurological development.

In order to extend these observations, an infant population was examined which was genetically loaded for schizophrenia and which was expected to show a higher incidence of developmental disorders. Neurological and psychological development were followed, using the methods of the earliest infant study (6, 7). In addition, vestibular function was tested and methods were developed for characterizing states of consciousness.

A study of consciousness in infancy is limited to objective measures of the sleep-waking continuum. For this study, a behavioral continuum was defined, which ranged from deep sleep through alert attentiveness to extreme excitement or crying, with 3 intermediate steps (restless sleep, open-eyed drowse and restless wakefulness with slight whimpering). Within this arousal continuum, the infant is most accessible to environmental stimuli when he lies quietly with his eyes open, alert to visual stimuli. Accessibility is reduced if he is less aroused, being sleepy or drowsy, or if he is more aroused, becoming restless or vigorously crying. This continuum was later found to be similar to the behavioral continuum of arousal which Lindsley related to gradations of awareness and to levels of activation on the EEG in adults (17). The ability of the infants to maintain a stable state of optimal alertness was analyzed as a function of age. This followed the approach used in the earlier studies of schizophrenic infants, in which deviations of various neurologic functions were defined in relation to established age norms (2, 7-11).

All infants born between March, 1959 and September, 1960 to patients in two New

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York State mental hospitals were included in the study. All mothers had been diagnosed as schizophrenic by the hospital staff. They had been ill for periods ranging from 6 months to 20 years. Most mothers had no phenothiazines for 1 to 3 months prior to delivery.

The infants were examined on the first day of life, usually between 12 and 24 hours of age; on the fourth day of life; and again at 1, 2, 3, 4, 7, 10 and 13 months of age. Thereafter, they were seen yearly, as long as follow-up could be continued. Two infants were lost to follow-up after the initial examination in the nursery. The remaining 13 have been followed for 10 to 24 months. Nine are in foster homes, 3 with their grandmothers, and 1 is in a foundling institution.

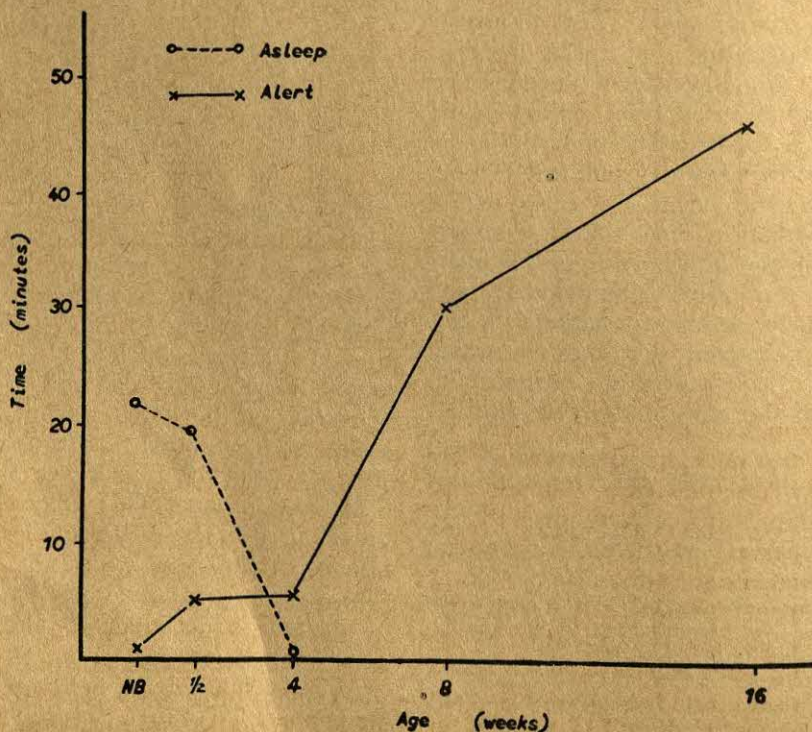
Infants were examined between 1 and 2 hours after the last feeding. In addition to the Gesell examination(13), the examination was composed of a series of stimuli graded from the mildest, *e.g.*, voice, test of

visual following, touch, to the more strenuous, *e.g.*, pinprick, postural manipulation, and caloric stimulation to elicit nystagmus, presented in that order. Throughout the 1½-hour examination, a continuous time record was kept, noting when the child had his eyes open or closed, when he cried, whimpered or moved, and when a pacifier was required.

RESULTS

General Trends. When the data were analyzed for the pattern of consciousness at each examination, several measures defined the progression of the group toward a stable state of optimal alertness with advancing age. The median time spent quietly asleep during initial stimulation (before the onset of sustained crying for a minimum of 2 minutes) dropped from 20 minutes on the first and fourth days of life to 0 at 4 weeks of age (Fig. 1). The sleepy state became negligible after the fourth day, when the majority of infants recovered from

FIGURE 1
MEDIAN TIME ASLEEP AND QUIETLY ALERT
DURING EXAMINATION

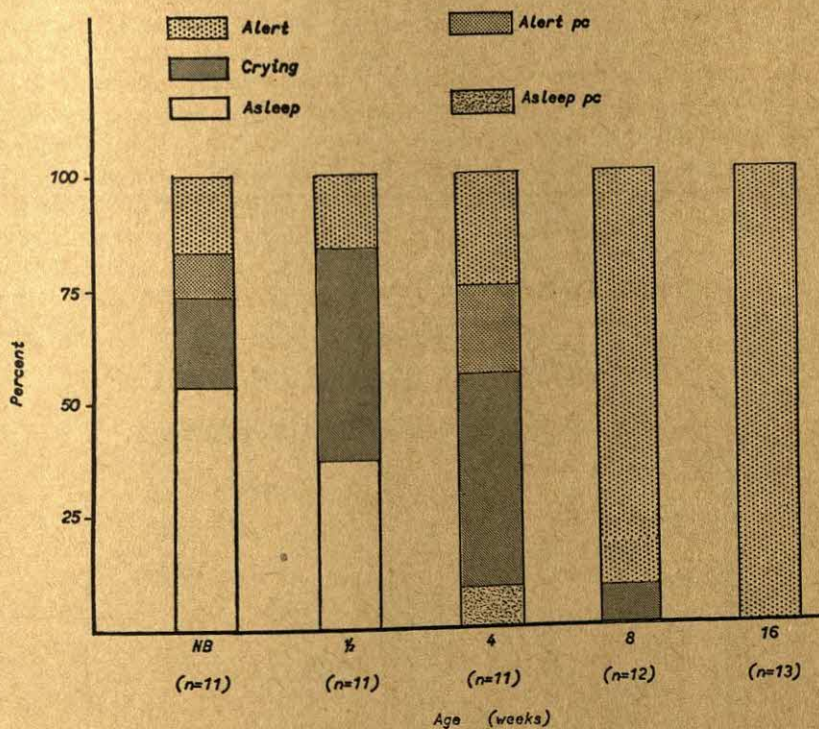


obstetrical analgesia and the birth process. The median time spent quietly alert increased sharply between 4 and 8 weeks of age, from less than 5 minutes to 30 minutes, and it continued to increase thereafter (Fig. 1).

Between the sleepiness of the newborn period and the alertness at 8 weeks of age, there was a period in which the infant usually cried if he awakened spontaneously or after stimulation. This is reflected in the change in the baseline state which occurred with age (Fig. 2). The baseline state

infants who sustained open-eyed alertness gradually increased to 90% by 8 weeks of age. By 8 weeks almost all infants were able to maintain an optimal level of responsiveness to external stimuli, without dropping off to sleep or quickly shifting to sustained crying. This maturation is also reflected in the maximum time during which the infants could continuously sustain optimal alertness (Fig. 3). The median time for maintaining continuous open-eyed alertness increased from only 2 to 5 minutes between birth and 4 weeks of age, to 25 minutes at

FIGURE 2
INCIDENCE OF DIFFERENT BASELINE STATES AT EACH AGE



was defined as that level of arousal to which the infant spontaneously returned after being aroused just enough to test vision. (Except in the sleepy newborns, this required only mild stimulation or none at all, if the infant was already awake.) The majority of infants were sleepy on the first day, but very few remained so after the fourth day. The number of infants who cried when awake unless given a pacifier increased after the first day of life, and then dropped sharply after 4 weeks of age. The number of

8 weeks, and it continued to rise thereafter to 45 minutes at 16 weeks, and still longer in the older infants.

The marked increase in alertness at 8 weeks reflects the capacity of the CNS to organize and maintain stable states of alertness. Another aspect of this increasing integrative capacity is seen in the drop in the median number of fluctuations of the state of arousal during examination (Fig. 4.) Many more fluctuations of state are apparent in the earlier examinations. This gross

FIGURE 3

MAXIMUM TIME CONTINUOUSLY ALERT

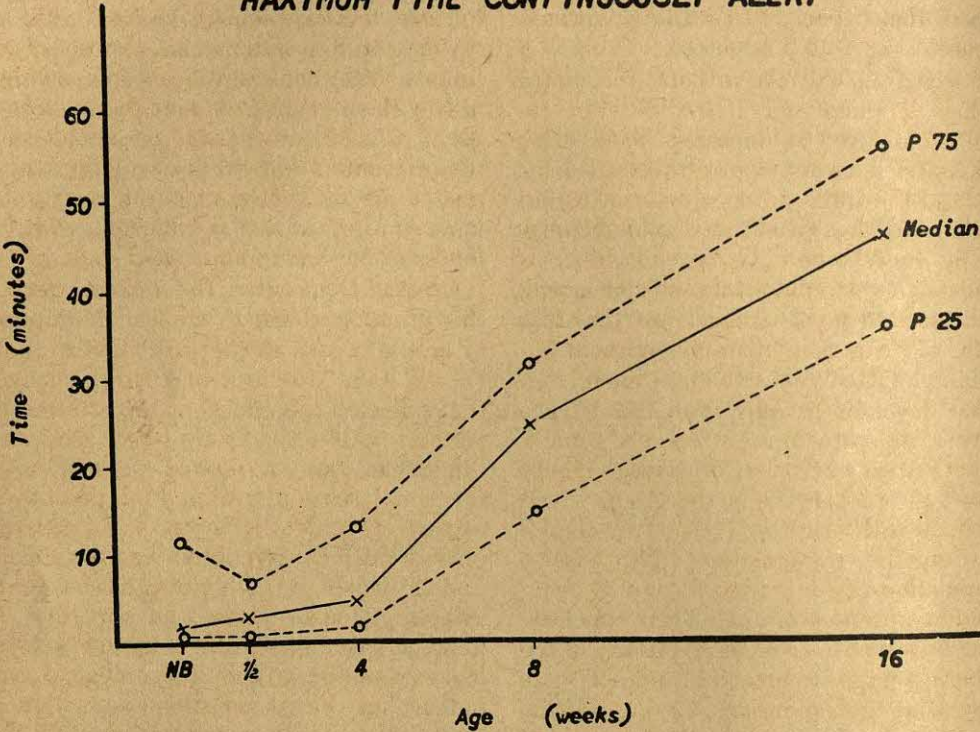
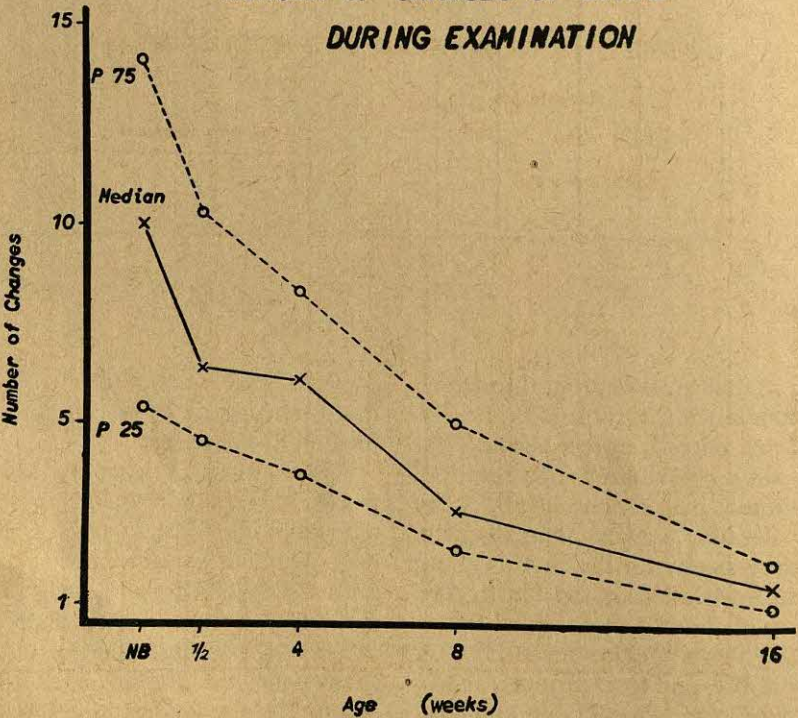


FIGURE 4

NUMBER OF CHANGES OF STATE DURING EXAMINATION



measure of instability of arousal state gradually declined with age, as the infants developed the capacity to sustain optimal alertness.

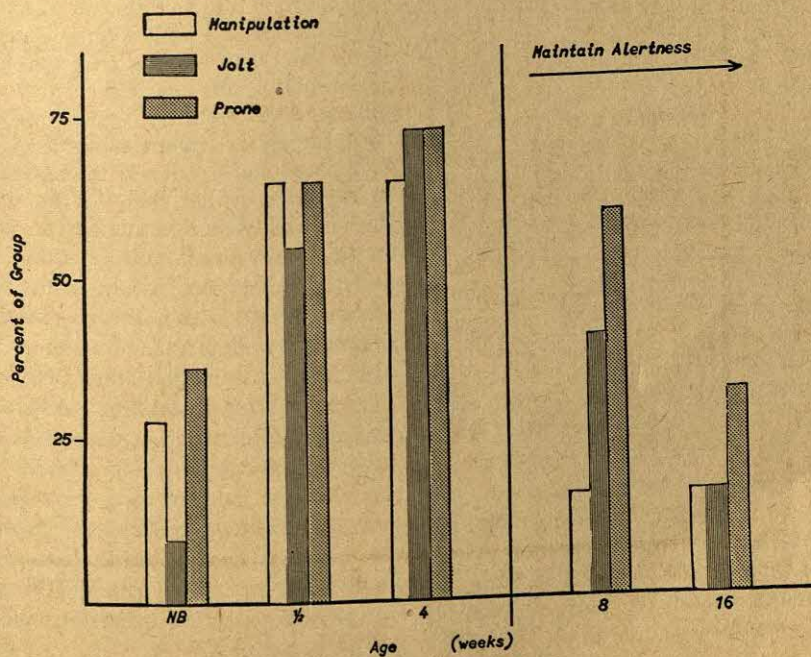
As seen from the above data, the infant develops an increased accessibility to external stimuli as he matures. Soon after birth, as he recovers from obstetrical analgesia and the birth process, he can sustain a high level of arousal after mild stimulation. By 8 weeks he develops the ability to modulate the extreme excitability or crying which accompanies arousal in the first month. He can then maintain optimal accessibility. This capacity for modulated arousal develops parallel with the infant's ability to tolerate more strenuous stimuli, without excess excitation or crying. Figure 5 shows the percentage of the group which responded with sustained crying to each of 3 items on the examination (jolt, passive manipulation of the extremities, and being placed in a prone position). There was little crying in response to postural stimuli in the newborn period, when the infants were sleepy and unresponsive. Crying during postural tests increased at 4 days and 4 weeks, along with the other signs of in-

creasing arousal and excitation noted above. After 4 weeks of age, the infants began to tolerate these strenuous stimuli with less crying. At 8 weeks, when almost all the infants (90%) could sustain open-eyed alertness without crying, we note that almost all could also tolerate passive manipulation of the extremities without crying. This may be related to their toleration for their spontaneous arm and leg movements, with less tendency to shift to an excited state.

Clinical Deviations. The median trends in this group conform to clinical descriptions of arousal states in the first months of life (5, 12, 14). Measures of central tendency that reflected the effects of the extreme deviations within this group might well show differences from a normal population. In this small, selected group, 3 infants showed excessively quiet behavior, with extremes of underactivity, hypotonia and absence of crying, which are highly unusual for young infants. A fourth showed an abnormal degree of irritability, and 3 infants showed less extreme deviations. These clinical evaluations are based on the examination of large numbers of normal infants (B.F.), but no exact comparison with an unselected

FIGURE 5

PERCENT OF GROUP CRYING WITH MOTOR STIMULI



group is possible, since comparable quantitative data are not yet available. However, the gross behavioral measures of arousal in this study do make it possible to define some of the differences between these deviate infants and the rest of the group.

The 3 most extremely quiet infants differed primarily from the rest in their ability to maintain a baseline state of quiet, open-eyed alertness as early as 13 hours of age. One resembled the other infants by 4 weeks, but the other 2 were always quietly alert and never showed the baseline state of crying with arousal. These infants could remain quietly alert for 15 to 80 minutes during stimulation in their first month of life, in contrast to the median of 2 to 5 minutes. Unlike the other infants, they also tolerated vigorous manipulation of joints and muscles without crying.

"Charles," the most extreme example of this, was excessively quiet for his first 6 months of life. He was markedly underactive, lay still and quietly alert, and tolerated vigorous manipulation of muscles and joints, jolt, and change of position without crying. However, he followed visual stimuli normally as he developed, and was extremely alert to slight sounds and touch. He cried sharply and briefly with a light pinprick. He was therefore selectively unresponsive to proprioceptive stimulation, compared to other stimuli. His muscles were extremely doughy to palpation, feeling indistinguishable from soft subcutaneous tissue. Although his head control was normal for his age, his trunk and extremities were so flaccid that he could be folded or twisted like rubber to bizarre, extreme positions without showing any increase in tone or signs of discomfort. The nursing staff spontaneously and affectionately nicknamed him "Floppy"; "He's like a little rubber doll." His poor tone interfered with his early grasping and reaching, and caused a marked delay in sitting (less than 4 months' level at 6 months of age). However, he rolled and pivoted like an 8-month-old when he was only 4 months of age. Unlike hypotonic infants with peripheral neuromuscular disorders (19), his deep tendon reflexes were 3+, loose and pendular. His hypotonia was apparently of central origin.

Although he was placid and inactive, he remained very socially responsive and vocalized after 3 months of age. At 6 months, he showed a marked spurt in postural control, and by 7 months he was able to sit and creep

like a 10-month-old. Shortly after this, the tone of his legs improved, and locomotor development advanced so rapidly after 10 months that he could walk, run and climb stairs like a 21-month-old by the time he was 14 months. At 6 months the foster mother felt he "showed no spirit," but his self-assertion increased along with his motility, and she noted at 1 year that she could "hardly keep him down." During this period of his most rapid development around 1 year of age, it was noted that for several weeks he became afraid of all cats, dogs with dark fur, and of people wearing dark clothing. These symptoms, associated with his increased assertiveness apparently, gradually subsided after 13 months of age.

He has been hyperactive and impulsive since 14 months of age. Daytime fears and tantrums and severe screaming spells at night, accompanied by headbanging, occurred periodically from 12 to 18 months, and then gradually subsided. He is still considered willful and sensitive, but tantrums are brief and no longer occur daily.

The 2 irritable infants differed from the group by continuing to cry with muscle and joint manipulation long after 4 weeks of age, when the other infants tolerated these stimuli. They showed a baseline state of sustained crying whenever aroused after 4 weeks, and could maintain a quietly alert state only for brief periods.

The most irritable infant, "Rachel," showed the most severe psychiatric disorder of the entire group at 2 years of age, despite the ministrations of a very calm and understanding foster mother. In her first week, the only abnormality noted was her slow, stretching, athetoid-like motility, which resembled that of a premature infant more than a full-term baby, and her tendency to maintain her legs in extension rather than in the normal semiflexion. She was unusually responsive to tactile, proprioceptive and auditory stimuli from birth, and continued to startle with minute and distant sounds. From 1 to 6 months, she had difficulty swallowing and vomited frequently, although examination disclosed no organic pathology. Her irritability persisted, and she was unable to sustain attention as long as the other infants. Apparently related to this, her visual-motor performance has been retarded and poorly integrated since 7 months of age. At 2 years, her excessive fear and freezing with any new stimuli resulted in grossly maladaptive functioning in performance tests and social behavior.

CONCLUSION

The evaluation of the changing pattern of consciousness can be used as a measure of the growing integrative capacity of the central nervous system in infancy. In the first months of life, at least two skills develop which are necessary for the maintenance of the quiet, open-eyed alert state. There is an increased general level of arousal(17) sufficient to permit responses to minimal visual and auditory stimuli. There is also a gradual modulation of spontaneous excitability and an increase in the toleration of proprioceptive stimuli. This permits a continuing stable state of awareness and prolonged, focused attention. These abilities are essential prerequisites for the well-integrated development of specific alerting responses(17), which involve differentiated attentiveness, perceptual discrimination, patterns of accommodation, and the more complex functions which modify the accessibility of the CNS to different stimuli.

The organization of a stable, sustained state of alertness by 8 weeks of age, as measured in a standard sample of timed behavior, precedes the organization of consolidated waking-sleeping patterns in 24-hour behavior samples(12, 16, 18). It also antedates the qualitative increase in organization noted in infants' EEGs at 3 months of age(3, 4).

As part of an ongoing study into abnormal development and early schizophrenia, consciousness and sensory responsiveness were studied in infants of schizophrenic mothers. Four infants showed marked deviations in the direction of excessive apathy or irritability. At 2 years of age, only the most irritable infant has shown grossly maladaptive behavior. The quiet infants had attenuated motor impulses, minimal response to proprioceptive stimuli, and in the most extreme case, flaccid muscle tone and irregular postural development. This quiet state clinically resembles the "adynamia" which Hess produced in cats by electrical stimulation of the lateral anterior hypothalamus(15).

These deviations in the state of consciousness, motility and muscle tonus as early as the first day of life, and continuing into the

early months of infancy, provide additional evidence of some early disturbance of functioning of the nervous system in this population, which was genetically loaded for schizophrenia. It is postulated that these dysfunctions are related to the disturbances of motility, excitability and perception which are seen in older schizophrenic children (1, 8).

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FAILURE TO KEEP APPOINTMENTS WITH THE ARMY PSYCHIATRIST: AN INDICATOR OF CONFLICT

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Civilian psychiatrists commonly encounter difficulty in ascertaining why some patients who are referred for consultation either do not appear for their appointment or do not return after the first visit. Lacking information other than that obtained from the referral source or from the single interview, the psychiatrist may conjecture that the patient's failure to keep his appointment results from a lack of motivation, resistance to making changes, or inadequate rapport. Usually the psychiatrist is unable to investigate the circumstances involved.

The Army psychiatrist, however, because of the circumscribed nature of the military community and the readily available channels of communication, is able to clarify some of the reasons for this common occurrence.²

For this purpose the January-June 1961 records of a division psychiatric section were reviewed. This inquiry revealed that over 35 individuals each month failed to keep appointments; 3 of every 4 of these men had been referred for possible psychiatric treatment.

Since this division is in a constant combat-ready status, the units comprising the division and their dispensaries are tactically separated at a considerable distance from the psychiatric section, creating transportation difficulties. This situation plus the frequent field training problems could account for some of the failed appointments. However, since the patients are commanded to appear for the scheduled psychiatric consultations, these factors alone did not seem sufficient to account for the total number of missed appointments.

From contacts with the individuals re-

ferred, the units to which they were assigned, and the referring source a variety of explanations were obtained. The patient had been transported to the wrong place or had missed the only available transportation. The patient had been given an assignment which prevented him from arriving at the psychiatrist's office. There was a misunderstanding as to the time of the appointment. The individual felt he had resolved his difficulties and did not desire further assistance.

Closer inspection revealed that these explanations were inadequate. For example, though a unit might not have transportation available at a given moment, two blocks away a scheduled bus left from the unit dispensary where the referral had originated. In another instance, the patient travelled to a different location even though he had been seen by the psychiatrist previously. Another patient was placed on guard duty although his unit was aware that the dispensary doctor had made an appointment for him to be seen in the psychiatric section.

To understand these discrepancies, further discussions were held with individuals referred, the officers and men of the units, and the referral sources. Three interrelated groups of attitudes toward the psychiatric patient and the psychiatric service were revealed: the attitude of the individual patient, of the officers and other men of his unit, and of the referring source(1).

Attitudes of the Patient. The source of some individuals' misconceptions of the military psychiatric patient and the psychiatric service is partially attributable to the belief that the historical image of the psychiatrist, as one who provided custodial treatment for severely disturbed patients, has not changed with time.

K. was referred by his unit commander because of irritability which had resulted on several occasions in K.'s throwing his boots through the barrack's windows. K. presented himself early at the psychiatric service, but

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² Although this study was executed in a single setting with certain unique characteristics, many of the observations have been substantiated in other division mental health clinics. The previous experience of one of the writers at a stateside military mental hygiene clinic also supported conclusions drawn from this study.

when his appointment time arrived he could not be located. A contact with his unit revealed that K. had returned to notify his superior officer that he was not "crazy" and did not need to return to the clinic.

From further discussion, it was learned the individual viewed his commander's referring him to the psychiatrist as equivalent to being considered "crazy." To him this implied incurability and commitment to a psychiatric hospital.

In addition to having confused notions as to the type of patients treated by the psychiatrist, most individuals had little understanding of the psychiatrist's functions, limitations, or capabilities (2). One patient's lack of understanding of the function of the military psychiatrist resulted in severe disappointment when his unrealistic expectations were not fulfilled.

A. arrived at the psychiatric clinic complaining of dissatisfaction with his unit. He felt that officers were prejudiced in that they had not allowed him special privileges and limitations of routine duties, considering his "superior intelligence and two years of junior college." The solution, he felt, was a transfer to a "less narrow-minded unit." He stated his sole purpose in coming to the clinic was to solicit aid in effecting this transfer. The clinic's limitation in accomplishing this transfer was discussed with him and further appointments were offered in order to discover other solutions which might be feasible. He reluctantly accepted another appointment but did not return.

This man's reluctance to accept any personal responsibility for his present difficulties contributed to his unwillingness to return. He represented a large number of referrals who conceived the only value of psychiatric assistance to be some modification of their environment, such as relief from extra duties, transfer to a different unit, obtaining a different job, being given a military discharge, or other type of administrative change. The unlikelihood of such a manipulation of the person's environment resulting in a satisfactory solution, plus the many administrative limitations frequently resulted in disappointed individuals who failed to return a second time.

The military community often requires

the psychiatrist to make recommendations which may become the basis of administrative actions. This responsibility may interfere with the patient's willingness to divulge personal problems for fear that any written evaluation may become common knowledge, or in some way affect promotions or performance ratings. Both officers and enlisted men have expressed their reluctance to return after an initial appointment because of these fears.

Another source of conflict develops when the individual considers his referral to the psychiatric service to be for a concealed reason, such as a surreptitious evaluation preliminary to an administrative discharge. A man who is performing his work satisfactorily may be quite hesitant to accept a subsequent appointment if he thinks that a psychiatric consultation may precede a recommendation for an administrative discharge.

Attitudes of Officers and Men of the Unit.
An evaluation of the appointment failures revealed a disproportionately large number in some units. No relationship could be established between the number of appointment failures and the unit's distance from the psychiatric section, its size, or the amount of time spent on maneuvers. However, a high number of appointment failures did correlate with a low percentage of requests for psychiatric consultation by the unit and with a disproportionately high rate of unit disciplinary problems as reflected by numbers of administrative discharges.

The underlying attitudes of the officers and men of these units were studied more intensively. It was learned that when an officer in one of these units viewed the psychiatric facility as solely a way station in the administrative process for the elimination of undesirable persons, he tended to hinder individuals who were not obvious disciplinary problems from seeking help.

E. was admitted to the hospital for immediate lifesaving surgery after he had thrown himself out of a third story window. The officers of his unit had been aware of his many problems for a number of months and had expended considerable effort in attempts to assist him. When one of the officers was asked, after the suicidal attempt, why E. had not been referred to the psychiatric clinic, he said, "E.

was a fine soldier, not a trouble maker ; why should I send him to the psychiatrist ?”

Other commanding officers felt that the psychiatrist could offer them little assistance in the rehabilitation of disciplinary problems. These officers concurred that their men with behavioral disturbances could best be “rehabilitated” if they were given long sentences in the stockade. Punishment, not insights into their men’s difficulties, was considered the better solution.

Some of these commanding officers’ attitudes were reflected in their delaying the referral of overtly psychotic individuals to the psychiatrist.

B., a 25-year-old, was observed by his superiors for 4 days to be hallucinating conversations with elephants. On the 5th day, after he had been repeatedly told to “stop faking,” he was transferred to a new unit where he was finally referred to the psychiatrist.

It was later learned that this commanding officer viewed B.’s symptomatic disturbance, which had not been improved by his usual techniques of “counselling,” as a failure of his ability as a leader. Not wishing his feared deficits to be exposed and not wishing his prerogative as an officer to be appropriated by an outside source, he had not referred the man for psychiatric consultation but preferred to transfer him instead.

One week later this same officer demanded immediate cure of an alcoholic that he had unsuccessfully ordered to stop drinking and had punished over the past 8 months. The patient, who arrived for the initial appointment, expressed no desire to return or to modify his behavior. He had come only because of his commander’s order. Frustrated by this alcoholic’s lack of improvement and guilty over his having delayed the request for professional advice, this commander demanded a magical instantaneous solution from the psychiatrist.

Some units, disturbed by the potential psychiatric patient, utilized many direct and indirect measures to prevent the patient from continuing with his appointments.

O. came to the clinic because of mild depression, recurrent nightmares, and fears of the dark. After failing the second appointment, O. was seen at his unit by one of the authors.

He stated that he did not want to return because on the day of the second appointment, his name had been called at the morning formation as having an appointment with the “head shrinker” that afternoon. This announcement was followed by considerable laughter among the other soldiers. Some of them commented, “O. must be a nut,” and “That’s a bugout for you.”

The stigma of these labels, the unwanted ridicule and derision of his fellow soldiers contributed to his not returning. More direct measures were used with T.

The unit surgeon referred T. because of depression, difficulty sleeping, and fears of the dark. After he had failed to keep his appointment, the unit was telephoned. The first sergeant stated that T. could not keep his appointment because he had been placed on guard duty. Furthermore, the sergeant felt that T. was “only faking” and not really in need of help.

An officer, concerned that he might be criticized for his past treatment of one of his men, became more lenient once the individual had been referred to the psychiatric section.

P. came to the clinic on referral from his unit surgeon with a problem of excessive drinking and depression. His unit was aware of his drinking as he had failed to show up for work several times after all-night drinking sprees. During the first interview P. explained that since he had not been given sufficient authorized leaves he was drinking excessively. After P. failed to arrive for his second appointment, it was learned from his unit that P. was no longer depressed and had stopped drinking. He had been given unlimited pass privileges and had been taken off extra duties. The unit explained that they had decided to give P. “a break” now that he had become a “psychiatric case.”

Forces were mobilized by this group as soon as they had accepted this individual as a psychiatric patient. If these processes had not been known to the psychiatrist, this individual’s symptomatic improvement or worsening might possibly have been attributed to some kind of psychotherapeutic intervention.

Either being referred to the psychiatric section or behaving in a sufficiently bizarre

manner may result in an individual's being designated as "emotionally sick" or "crazy." The unit then considers the individual to be not completely responsible for his actions and will treat him with a more lenient, outwardly tolerant attitude and demand less of him.

If the individual is not hospitalized after the initial psychiatric appointment, this may be interpreted to signify that he is not "crazy" and, therefore, does not require additional visits. In several instances, unit officers were apparently quite pleased to have their diagnosis of "not crazy" confirmed by the psychiatrist. Relieved of any guilt feelings, the officer felt sanctioned to punish the individual for his misbehavior.

Attitudes of Referral Sources. As in civilian practice, the method of psychiatric referral can materially affect the patient's expectations and attitudes prior to his ever entering the psychiatrist's office(3). The major difference between civilian and military practice results from the possibility that the soldier who is reluctant to be seen by the psychiatrist can be ordered to appear against his wishes, although he may not voluntarily return a second time.

C. was referred by his dispensary doctor because of numerous somatic complaints (headaches, backaches, and stomach pain) for which no organic cause could be found. On the date of the consultation, C. went AWOL. On being seen at a later date after his apprehension, C. said that he was not "crazy." He wondered why his doctor had referred him to the psychiatrist.

Attitudes toward the psychiatric section held by the various referral sources may contain any of the previously described elements found in the other groups.

S. related that he had been trying to come to the clinic for over three months. He had talked with the chaplain and with his unit surgeon about his many worries. On these occasions he had been told it was not necessary to be seen by the psychiatrist, that he "should not let things worry him" and that what he needed was a few days leave. On the first day of leave, he came to the clinic on his own.

Attitudes of the Psychiatric Service. The attitudes of the psychiatrist, which are

conveyed to the patient during the initial interview, are more difficult to assess. A patient's failure to return undoubtedly may stem from the psychiatric worker's insensitivity to the patient's anxieties or an inability to develop the necessary atmosphere of acceptance and understanding. Since the majority of the enlisted men who comprise the bulk of the psychiatric referrals come from a lower socio-economic background, it is not surprising that many patients might feel "misunderstood" by the psychiatric staff, whose values and backgrounds are often quite different(4).

DISCUSSION

The study indicates that reluctance to take advantage of psychiatric assistance is related to the individual and group images of the psychiatric section and the psychiatric patient. Misconceptions about psychiatric patients and psychiatry are derived from a variety of fears, attitudes, and unrealistic expectations of the individual patient, the referral sources, and the patient's unit, which can and do conflict with one another. The end product of these conflicts is that the patient fails to be given or to keep an appointment.

Of considerable concern to the mental health worker is the modifiability of these group attitudes. In this setting, as a result of knowledge gained from this study, face-to-face discussions with unit commanders and sources of referral have increased.

As the attitudes of the units and referral sources toward psychiatry and the psychiatric patient change, the military group becomes less threatened by deviant patterns of behavior. Individuals are referred for psychiatric consultation with more appropriate expectations, appointments are infrequently delayed, and patients rarely fail to keep appointments once made.³

What accounts for this reduction in the number of missed appointments? As information is exchanged between the psychiatric section, the units, and referral sources, misconceptions and distortions are reduced. The psychiatrist begins to recog-

³ Following this exploratory study, it was found that although the case load had doubled, there were only 15 individuals each month failing to keep appointments.

nize the complex group tensions which necessitate a group evaluation prior to making an individual diagnosis. The referral sources, military units, and psychiatric section become familiar with mutual problem areas and explore possibilities for cooperation. Knowledge of group processes, which perpetuate an individual's pathology or prevent his return to the psychiatrist after an initial appointment, aids the psychiatrist in making an adequate assessment of the individual, and appropriate recommendation increases, in time, the unit's confidence in the psychiatrist.

Our experience has been that adequate early evaluation and supportive treatment by many para-medical personnel is already available at the unit level if they are advantageously employed and work harmoniously with the psychiatric section. The stigma of mental illness associated with seeing the psychiatrist can be reduced by supporting and advising the dispensary doctors, chaplains, company commanders, Red Cross workers, and other auxiliary personnel in their work with disturbed individuals often without the psychiatrist ever seeing the individual personally.

SUMMARY

An investigation of failures to keep appointments and reluctance to refer individuals in obvious need of psychiatric assistance was conducted in an Army division psychiatric section. Making use of formal and informal channels of communication within the military community, the investigators were able to explore the basic question of failure to take advantage of the mental health facility.

The study indicated that several inter-related factors appeared to be associated with the problem: 1. The attitude of the

individual patient; 2. The attitude of the group within which the individual lived and worked; and 3. The attitude of the origin of the referral. These three sources contained a variety of fears, unrealistic expectations, and misconceptions about the psychiatric service. Where conflicts arose as a result of these misunderstandings, the end product was the failure to utilize the mental health facility.

Because of these discoveries, a more intensive educational program and an increase of primary contacts with sources of referrals and units within the division were made. These efforts have resulted in a dramatic decrease in the number of appointment failures and an increase in new referrals.

Even though this study was conducted in a military rather than a civilian setting, it appears the knowledge gained has applicability to both. It seems evident that consideration must be given to those forces outside the psychotherapeutic process which impede the use of available psychiatric assistance. Of equal importance is the necessity for the psychiatrist to be aware of the basic problem of failure to keep appointments in his own community and to ascertain what courses of action he might take to reduce these conflicting attitudes.

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AKINETIC MUTISM SIMULATING CATATONIC SCHIZOPHRENIA

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Akinetic mutism, a state of altered consciousness well described by Cairns, *et al.* (1), in 1941, is now recognized as a syndrome with clinical features including mutism, varying from unreactive coma to somnolence and pseudo-wakefulness, immobility except for eye movements, and obnubilation. Such a patient is often easily aroused, follows moving objects with his eyes, gives a suggestion he will speak and is apt to follow commands slowly but incompletely. The akinesis may be broken by a sudden outburst of restlessness or general hyperkinesia. Through visual and auditory commands, communication cannot be established, although there may be selective responses. He may voluntarily withdraw on painful stimulation. He gives no real indication of displeasure or pleasure when stimulated by auditory or mechanical means, even though he may open his eyes if they should happen to be closed. This state of consciousness is also called coma vigil, hypersomnia or parasomnia, a variant of akinetic mutism (39). It is often mistaken for a functional state of stupor. Coma vigil is distinguished from coma in that the patient in coma vigil blinks his eyes with some degree of alertness, shows some purposive reaction to nociceptive stimulation but otherwise displays a total absence of movements, except for those of respiration which are unaltered in rhythm (34).

The syndrome was first described in a patient with an epidermoid cyst of the third ventricle (1). Eleven years later Cairns reviewed his experience, describing one case of traumatic hemorrhage associated with mutism, partial akinesis, negativism, and catatonia, "a state superficially resembling catatonic schizophrenia" (2). In 1952 Jefferson implicated injuries to the brain stem and lesions of the fourth ventricle and aqua-

duct of Sylvius in the etiology (3). This syndrome has also been associated with thrombosis of the basilar artery (4-7), bilateral thalamic hemorrhage and neoplasm (8), colloid cyst of the third ventricle (9-26), craniopharyngioma (33-38), posterior fossa tumors, especially cerebellar (10), bilateral cingulate gyrus lesions (11, 12), pineal tumors (2), head trauma (37), tuberculosis meningitis (13), viral encephalitis of the mesencephalon (14), hydatid cyst of the diencephalo-hypophyseal region (35), glioblastoma of the right frontal lobe (15), infiltrating tumors of the right parietal lobe (15), acute cerebral malaria (16), and illuminating gas poisoning (6). Lesions of the brain stem, however, seem to be the most common cause. A number of lesions has been noted to produce akinetic mute states that simulate, in many respects, catatonic schizophrenia (2, 6, 13-15, 35, 40).

Another case of akinetic mutism following a subarachnoid hemorrhage and ligation of left internal carotid aneurysm and semeiologically similar to catatonic schizophrenia is presented with emphasis on the psychiatric aspects of the syndrome and its possible pathogenesis.

Case Report. In 1959, H.P., a 47-year-old married Negro woman, apparently well until 7 months prior to her admission to the New York State Psychiatric Institute, had the first of 2 episodes of brief unconsciousness associated with subsequent mutism and negativism for several hours, along with denial of illness. Following admission to hospital, she complained of headaches, a stiff neck and lethargy. A second episode occurred 10 days later and was similar to the first except for a brief period of agitation and paranoid ideation. At that time a lumbar puncture yielded a grossly bloody tap with an opening pressure of 140 mm./H₂O. She was transferred to another hospital for neurosurgical evaluation. She calmly accepted the medical recommendations. An aneurysm of the left internal carotid artery arising at the junction of the posterior communicating artery was demonstrated by arteriography, followed by a craniotomy during which ligation of the aneurysm was accomplished. Temporary occlusion of

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the carotid vessel was maintained for 4 to 6 minutes, during which body temperature was kept at about 27° C.

Postoperatively, the sensorium was clear. The patient recognized members of her family with whom she conversed normally. A complete left third cranial nerve paresis was transiently present. On the third day she became negativistic, agitated and refused to eat. The sensorium was intermittently clouded. On the eighth day the patient began to hallucinate, both auditorily and visually, in a very paranoid manner. Started on chlorpromazine (Thorazine), she became apathetic, withdrawn, depressed, mute, and doubly incontinent. Tube feeding was started, although the patient displayed no actual mechanical defect in swallowing. At times she exhibited intermittent but frankly catatonic signs which were taken by a consultant psychiatrist to be evidence of schizophrenia. She later developed a urinary tract infection and bilateral pneumonitis which subsided with antibiotics. A month after surgery a right hemiparesis with a central facial palsy was evident. The patient continued to be generally mute, withdrawn, and akinetic. Occasionally, she smiled but rarely did she move any part of her body. Hallucinatory behavior became more evident. Chlorpromazine was increased but later stopped, since the hallucinations seemed unaffected by the medication. Fluctuations in the level of consciousness persisted. Occasionally, the patient grimaced. Sometimes she gave the appearance of wanting to speak.

Six weeks postoperatively, a sodium amytal (200 milligrams I.V.) interview was done. The patient was initially responsive, opened her eyes, seemed to be frightened, and gradually became unresponsive and appeared to go asleep. There occurred several bursts of spontaneous speech which was somewhat dysarthric. During the third postoperative month, she was observed to smile on occasion. When seeing her family on Mother's Day, she suddenly exclaimed: "Oh, here's my boys . . . I'll be home as soon as possible." She then drew back into her usual mute state and acted as though her family were not present. Behavior continued to fluctuate. Intermittent urinary and pulmonary infections presented frequent medical problems which necessitated continued hospitalization for 5 months. Before transfer to the psychiatric service, the neurological signs described below were noted. Because of the unusual clinical state, decision was made to transfer the patient to the New York State Psychiatric Institute for further evaluation.

On admission, physical examination revealed

a well-developed but thin, gray-haired Negro woman, staring blankly ahead and lying immobile, unresponsive to any verbal stimuli. The right pupil was one millimeter larger than the left. The fundi were not remarkable. The remainder of the examination of the head, eyes, ears, nose and throat was negative except for a craniotomy scar at the left fronto-temporal area. The lungs were clear to percussion and auscultation. The heart was not enlarged. M_1 was greater than M_2 . A_2 was greater than P_2 . Sinus rhythm was regular. A systolic, harsh, grade II murmur was heard at the apex. The abdomen was flat. No organs or masses were felt. There was a midline suprapubic scar from an old hysterectomy. During the neurological examination the patient occasionally grunted with monosyllables. She sat quietly, regarding all about her with a wide-eyed stare and gave some promise of speech. Eye movements were conjugate. No nystagmus was present. Pupils were equal and responded sluggishly to light. On command she slowly brought her right arm forward to her forehead, but never quite made it. No withdraw movements were made to pin stimuli on the right side of the body below the neck. Stimuli at the neck on the left side caused a delayed movement of the left arm toward the area eventually reaching it. Stimuli on the left hand produced a slow withdraw movement. A more rapid withdraw movement occurred with stimulation of the left foot. There was a marked adductor spasm of the legs, a 30°-40° flexion-contracture of the right knee with a 10° contracture on the left. The deep tendon reflexes were increased more so on the right. There were positive palmo-mental, Hoffmann and Babinski reflexes as well as a snout reflex.

The temperature was 99.4° F.; the pulse was 110 and regular; respirations were 28; blood pressure was 110/70. Complete blood count and urinalysis were negative. An electroencephalogram was diffusely abnormal because of slow activity present over the more anterior portions of both hemispheres, particularly on the left. A comparison with the EEG made several weeks postoperatively showing greater depression of activity over the right anterior temporal area demonstrated now less depression of activity.

It was learned from the husband that several weeks prior to the patient's illness she had complained of insomnia and anorexia and had become quite irritable and suspicious of her husband. He revealed that in the last year she had become alcoholic. Past history indicated that the father was an itinerant minister who

divorced the mother when the patient was aged 10. The patient was given piano lessons at the age of 3, encouraged to be "a concert pianist," but revolted against the mother when she was aged 12. She then experienced an ill-defined psychiatric disorder which resulted in her "having to go away for the summer." In late adolescence she married an older man who divorced her several years later. At the age of 27 she remarried. She had one child with bilaterally absent epiphysal centers in the tibia and fibula. The husband asserted that the patient had felt extremely guilty over their deformed child. For a number of years she had been argumentative, easily annoyed and had had "the habit of staring off into space for long periods" for no apparent reason, although it occurred when she was usually angry. He remarked that the patient had had a very hostile and defiant relationship with her mother, a school teacher, who persistently had encouraged her to do well "for the sake of the family." The patient had been very close to her younger sister, a mute, and had protected the girl against the mother who was quite resentful of this daughter.

There was little change in the patient's clinical condition. Her face remained unexpressive. She did not speak spontaneously except to say, when the ward attendant once spilled her milk: "You are very clumsy." She maintained a sitting or dorsal recumbent position with her eyes staring into empty space, seemingly oblivious of her surroundings. There was no reaction to visual or acoustic stimuli. Although she would indifferently take fluids introduced into her mouth, she made no attempt to chew food. Positions passively imposed on her extremities were maintained for long intervals.

Repeated EEGs showed a pattern of light sleep with slowing which occurred in the form of low to moderate voltage (2-3cps) and (4-7cps) activity. Slower frequencies were most prominent in the more anterior regions, particularly in the left anterior temporal region with some slow spike discharges. Photoc painful and cold stimulation produced no arousal reaction or significant change in the electrical activity.

Several weeks after admission the patient developed a urinary tract infection and was found to have a fecal impaction. She later evidenced signs of a small bowel obstruction and was transferred to the surgical service where an intestinal obstruction with volvulus secondary to old postoperative adhesions was found (17). By the 14th postoperative day the patient's course was stable, and she was trans-

ferred back to the Psychiatric Institute, from which she was later discharged to a hospital for chronic care. It was the general impression that the akinetic mutism was, at least in part, a result of infarction of the area along the left middle cerebral artery with diffuse encephalomalacia.

In 2 months the patient had a recurrence of pneumonitis with congestive heart failure and died. Autopsy revealed diffuse bilateral suppurative pneumonitis with interstitial fibrosis and atelectasis. The heart showed evidence of arteriosclerosis of the coronary vessels, rheumatic mitral insufficiency and hypertrophy of both ventricles. Gross examination of the brain showed severe congestion and edema with the focal left temporal encephalomalacia. There was moderate arteriosclerosis of the cerebral vessels.

DISCUSSION

In the evaluation of the patient's illness, a number of signs that initially suggested schizophrenia were found. She was often inadvertently taken for a catatonic by casual visitors to the ward. The history of an adolescent emotional disorder, the pre-morbid personality pattern of becoming muted and fixed when angry, recent change in her personality with marked irritability, suspiciousness and lability, and a short episode of mutism and negativistic behavior after her first subarachnoid hemorrhage could have been taken as clinical signs in support of such a diagnosis. The reaction to the sodium amytal interview was even interpreted along these lines by a psychiatric consultant. It soon became evident, however, that the patient had sustained diffuse CNS damage and presented phenomenologically the syndrome of akinetic mutism. Diffuse encephalomalacia along the distribution of the left internal carotid artery, distal to the aneurysm, was postulated. At autopsy only focal left temporal encephalomalacia, along with severe generalized congestion and edema, was grossly apparent. Small infarcts and neuronal loss from hypoxia, secondary to the operative procedure, however, may have been present. Microscopic studies were not done.

The semeiotical similarities between akinetic mutism and catatonic schizophrenia have prompted the use of ECT in some instances. One patient, a woman exposed to

illuminating gas for 24 hours, was given a series of ten ECT's because of misinterpretation of her mutism and akinesia(6). Reference is also made to a patient with a bilateral thalamic tumor who, over the course of 2 months, manifested classical signs and symptoms of catatonic schizophrenia without neurological signs(13). A hydatid cyst in the diencephalo-hypophysial region is said to have produced behavioral changes in a patient who initially was excited, aggressive and hallucinating and then suddenly changed, becoming mute, akinetic and posturally catatonic(35). A case of an 11-year-old boy who, after two subarachnoid hemorrhages from a basilar artery aneurysm, ran an unusual clinical course is reported. Initially he was comatose for 2 weeks, then passed into a 3-month phase characterized by mutism and akinesia. The patient then became negativistic, markedly so after 3 months, when he displayed catalepsy, stereotypies, telegraphic speech, and oral-aggressive fantasies, particularly ones of refusal to eat "because his mother would die," and later a sudden and complete loss of his akinetic mute attitude. After passing through a schizophreniform phase, he returned to his previous personality integration. But he continued to have several neurologic signs. This patient was unable to recall the events of the first few months of his illness. After recovery from akinetic mutism, Cairns' patient also had a total amnesia for the illness. This is in sharp contrast to the akinetic schizophrenic patient who, after recovery, has complete memory for the catatonic state and shows, during his illness, no electroencephalographic evidence of drowsiness or absence of an arousal reaction with nociceptive stimuli(27). Another differentiating factor is the sodium amytal interview which produces somewhat different reactions in the schizophrenic and the akinetic mute (24).

Akinetic mutism cannot be attributed to destruction of sensory and motor pathways. It is generally agreed that there is a close relationship between altered consciousness and the reticular activating system(18-20), and that akinetic mutism is a result of partial damage to the reticular activating system or interruption between the reticular activating system and its cortical and sub-

cortical connections(21-23). The inclusion of such varied nosological conditions under the rubric of akinetic mutism has been questioned on the basis that only cases showing interruption of the ascending activating system should be included. It is thought that enlarging the syndrome might "impair the purity of the notion and efface its primary meaning"(13). Such pathologic specificity is unwarranted at this time, since it is often difficult to implicate directly the reticular activating system with such varied neuropathological lesions resulting in akinetic mutism.

What is the role of the pre-morbid personality in the development of akinetic mutism? Is there a selective and motivated part of the behavior of the akinetic mute? The reported patient had employed silence, withdrawal and avoidance as a mode of response to stress. When angered she would stare off into space for long intervals and was bilaterally unattentive(24). How she learned this motive adaptation is not known, except that the younger sister, with whom she was very close, was a mute. Identification with this sister may have been important in the selection of this defense. Prior to the illness, she had turned to alcohol in avoidance of a marital problem. An exaggeration of her well-established tendency to suffer illness in silence and to express resentment by retreat to isolation was then more prominent.

The similarities between schizophrenia and akinetic mutism have stimulated speculation on the pathogenesis of catatonia. Referring to Pavlov's view of catatonia as a state of chronic hypnosis, Steriade, *et al.*, in seeking a pathogenesis of schizophrenia invoke partial interruption of the medial inferior reticular activating system, resulting in a de-afferentation of the cortex(13, 31). Studies on sensory deprivation are used in support of such speculation. Limitation in sensory input is thought to result in an accumulation of epinephrine and norepinephrine with increased sensitivity of the rostral midbrain tegmentum and sympathetic nervous system(25). Interconnections between the cortex and reticular formation have been established. Ideation can stimulate the descending and the ascending reticular activating system, thus producing a

state of activity in the cortex. Corticofugal influence, therefore, can serve as arousal, alerting, or retentive devices in the reticular activating system with reflected changes to the cortex(28). Experimental evidence indicates that hallucinations and possibly delusions can be produced by sensory deprivation(29), and are often schizophrenic in character(30). Dissociation between the cognitive and volitional facets of synthetic ego functions in akinetic mute states is not dissimilar to the dissociation seen in psychoses and dreams(36).

But even with recent multi-factorial studies(15) of akinetic mutism and its exfoliations its pathogenesis, particularly in man, remains obscure. Nevertheless, it is helpful to colligate clinical and experimental data.

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NEGROES IN PSYCHOTHERAPY¹

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Until less than a decade ago, almost the only psychiatric treatment available to the Negro was through public clinics and state mental hospitals. This is no longer the case. Two trends are now making private psychiatric care progressively more available to Negroes. One is the increasing number of psychiatrists including, we are glad to note, Negroes. The other is the rapidly rising socio-economic level of the Negro and the crumbling of interracial barriers(1, 5). Even in a border State such as Maryland most private psychiatrists now treat Negroes, and all but one of the major private hospitals accept them on a non-segregated basis,³ although 10 years ago none admitted Negroes. There has in addition been a concomitant expansion and improvement of state hospital and clinic care and a widening range of available forms of therapy, both group and individual. It therefore seems appropriate to study the relationship between white therapist and Negro patient, since this affects the course of therapy.

This relationship is determined by the personal characteristics of the therapist and patient, and by the cultural attitudes of Negro and white towards each other. The therapist must be aware that such factors exist and be able to focus on them when it seems therapeutically indicated, but without being so concerned with them as to overlook more strictly personal issues.

Negroes, when seen in psychiatric consultation, present the same general personality and treatment problems(8) and fall into the same general diagnostic categories(9) as do whites of approximately the same class status(6). Similarities between white and Negro are greater than differences(4).

The latter are nevertheless present(14) and must be given serious consideration. Negroes have the adjustment problems of all underprivileged minority groups—we have seen almost identical phenomena in Irish, Italians, Poles, Jews (and even among "Georgia crackers" and so-called poor whites)—but in Negroes the problems are apt to be more intense and pervasive, because they wear with the color of their skin an undisguisable sign of their minority group status(3).

The present, rapidly changing status of the Negro is an additional source of stress. The 1954 Supreme Court decision(1, 2), with the pressures for de-segregation to which it has given rise, is making itself felt with increasing sharpness in political, economic, religious, educational, and cultural areas. The Negro is fighting to win recognition, in both Southern and border States, as a mature human being(3a). As, with the passage of time, his social, economic, and class status improves(5), special problems will be posed in the fields of individual and social psychiatry(3a).

Neither can be considered apart from the other, since there is an inter-reaction between the two. When our society becomes healthier in this respect and, so we hope, no longer emotionally traumatizes the Negro in his formative years, the reactive guilt of the white—and what this means to him emotionally—will disappear. But at present the paranoid insecurity and guilt not only of the bigot but even of those without conscious race prejudice may at times be intensified as the problem, during the course of its ultimate solution and dis-solution, at first comes into sharper and sharper focus.

Few of us are entirely free from race prejudice; with some, this is overt; with others it may be below the level of conscious awareness. It may express itself in overt activity; it may—more happily—never be allowed such expression.

Certain aspects of the problem become highlighted in the psychotherapeutic relationship. The white therapist, vis à vis his

¹ Based on a preliminary report presented December 28, 1956, to the fourth annual congress, the Inter-American Society of Psychology, University of Puerto Rico (San Juan, Puerto Rico).

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³ The State Hospital System does not. Negroes requiring psychiatric hospitalization are admitted to the Crownsville State Hospital; while white patients go to the other State Hospitals.

Negro patient, need seldom contend with *conscious* prejudice in himself, because if this were present he would not have accepted the patient for treatment. He must, however, be alert to the possibility of *unconscious* prejudice. This may manifest itself either directly or through reaction formation. He may, for example, subtly reject Negro patients so that they stop coming to see him. Or conversely, especially if he is a member of a minority group himself, he may over-identify with them and lean over backwards by, for example, scheduling certain patients for extensive or intensive treatment when neither is indicated.

The more pronounced the unconscious insecurities and guilt of the white psychotherapist in this area are, the more ineffective his treatment contact with these patients must necessarily be. As his own guilt begins to disappear, he will find himself able to treat Negro patients more effectively instead of, unwittingly and for personality reasons of his own, traumatizing them still further.

The Negro, as a member of a minority group, inevitably brings certain attitudes into treatment; three—resentful anxiety, distrust, and “self-hatred”—require comment. Resentment and anxiety are produced by past experiences of discrimination.⁴ Negroes never know how they will be received by whites in new situations. Almost all have suffered unexpected humiliating rebuffs. Moreover, at least in many Southern and border States, they are even now still denied equal protection of the law and as a result not infrequently undergo genuinely threatening experiences. One colored physician, for instance, while driving with a light-

skinned companion in a Southern State, was arrested and threatened with jail because his companion's protestations that she was colored were disbelieved. There were veiled hints that, if this girl would permit sexual advances by the officer, the charge would be dropped. If freedom from fear is desirable for any citizen, as Tomkins has stated, it must be desirable for all citizens (6a).

Because of experiences like this, Negroes characteristically develop distrust of all whites (the second of the three attitudes so frequently seen during treatment), and unwillingness to reveal weakness to them. This, incidentally, is a greater obstacle in group than in individual therapy (12). The Negro's distrust of white patients in a therapy group is greater than his distrust of the white psychotherapist whose professional status tends to counteract this attitude.

The third commonly found culturally-induced attitude, “self-hatred,” has been noted in all underprivileged minority groups. Whiteness represents full personal dignity with complete participation in American society. The Negro, therefore, who is most nearly white in appearance, class and educational status, and attitude has tended to be embarrassed by and to look down upon Negroes who more closely resemble the white stereotype of the Negro (15), while the Negro who is more closely identified with his group resents the attitudes of the more “assimilated” Negro, and at the same time may secretly envy him. Such attitudes connected with “self-hatred” are particularly difficult to reveal in the presence of whites, but eventually do appear if therapy is sufficiently prolonged.

These points may be illustrated by an example from a mixed white and Negro psychotherapy group. Such groups present particular problems for therapy arising out of these culturally induced attitudes; they also throw such attitudes into relief. This example highlights the protective reticence of Negroes in the presence of whites, contains a hint of the “self-hatred” phenomenon, and indicates this distrust of whites. This experience occurred in a border state (Maryland) where such attitudes are prominent.

⁴ There, for instance, have been over 3700 arrests since February 1, 1960, when 4 first-year students at an all-Negro college in Greensboro, North Carolina, started the sit-in by refusing to leave a segregated lunch counter which had denied them service, but remained seated reading their Bibles and studying their texts. On the bright side, over 5000 eating facilities have now desegregated as a result of sit-ins, “Freedom Rides,” etc., since. In the past year-and-a-half such demonstrations in the Washington suburban area have attracted large numbers, including five U. S. Congressmen. The psychiatric implications of this are discussed in detail in a very thought-provoking article by Fishman and Solomon (3a).

Through an unusual concatenation of circumstances a mixed group, ordinarily conducted by a white therapist, had one meeting in which two members only were present, both Negroes; this time the therapist, likewise, was a Negro. One of the patients, Mrs. B., a schoolteacher, explained, "It will be much easier to talk since we are all the same," and then discussed what she felt to be her husband's irresponsibility, something which she could not bring up when whites were present because, in her opinion, this coincided with the whites' stereotype of the Negro male. Later she mentioned her annoyance, which she had never previously expressed in the group, because Mrs. G., a colored housewife of clearly inferior social and educational status, at an earlier meeting had said something critical about schoolteachers. These reciprocal attitudes, manifested by Mrs. G. and Mrs. B., could be interpreted as representing an example of "self-hatred" expressed in an oblique way. At the end of the meeting she told of her inability to trust a certain white social worker because, although this worker was friendly to Mrs. B., she had made remarks which Mrs. B. interpreted as uncomplimentary to Negroes in general. The therapist felt that Mrs. B. was referring also to the therapy group situation but this did not become explicit, nor did it seem at this particular time as though it should be raised for therapeutic discussion.

Racial discrimination may contribute to the psychopathology of the individual Negro patient in a variety of ways. Specific incidents occasionally serve as precipitating factors in the onset of severe neurotic or psychotic symptoms. Racist discrimination may help determine the content of grandiose or persecutory delusions(7). It may serve as a chronic precipitant for repetitious anxiety-producing situations which, over a lifetime, predispose the individual concerned to see racial (or religious) discrimination where none exists. It may channelize the antisocial behavior of individuals with severe personality disorders and so-called character neuroses(11). Some may use it as an alibi for their own inadequacies. By making it possible for exploited individuals to vent aggression against members of their own or other minority (or majority) groups, it may constitute a defense against the onset of neurotic or even psychotic symptomatology.

In any case, patients concerned continue to be chronically psychogenically traumatized. So, frequently, are all with whom they come in contact.

Some specific implications of these points for the psychotherapeutic relationship may now be considered. First, the distrust which the Negro often brings to the white therapist may manifest itself in obscure ways which lead either therapist or patient to misinterpret what is going on. For example, patients without motivation for treatment are told they must learn how to live with their symptoms. If the patient be a Negro, he may attribute this to anti-Negro prejudice in the psychiatrist. This poses special problems for the therapist. Leaning over backwards and scheduling such patients for treatment is not only a waste of what otherwise could be productive psychiatric time, but is as much evidence of underlying race prejudice as refusal to accept Negro patients.

Similarly, the Negro for whom psychiatric hospitalization seems advisable, or members of his family, may feel that if he were white he would be accepted for treatment on an office basis. Four of our private patients, for instance, were convinced that the recommendation for hospitalization was a thinly disguised means of rejecting them. If the white psychiatrist does not realize this and take the time to correct it, the recommendation for hospitalization may not be accepted."

If the patient accepts hospitalization, he may find that since no private psychiatric beds at the time are available he must be placed on a waiting list. This situation arises even in the total absence of discriminatory policies, but the Negro will almost certainly interpret it as race prejudice on the part of the referring psychiatrist or hospital administration. This, therefore, also must be discussed during the consultation sessions.

Membership in a minority group tends to lead to certain habitual ways of relating initially to a member of the majority group. The white therapist who sees Negro patients needs to be aware of these. Such patients are still apt to show either sullen reserve, or loquacious and obsequious over-

affability.⁵ If the therapist permits himself to be antagonized by the former, or to be deceived into accepting the latter as expressing his patient's actual feelings, the development of a good psychotherapeutic relationship will be handicapped. Furthermore, many Negroes, especially of lower class status, tend to defend themselves against anticipated demands from the white by assuming an exaggerated air of indifference and stupidity.⁵ The white psychiatrist may be misled by this into making an unwarranted diagnosis of mental deficiency or even of simple schizophrenia; yet the same patient may show normal responsiveness and intelligence when interviewed by a colored psychiatrist.⁶

The Negro's position as a member of a minority group subjects him to experiences which differ from those of the white of corresponding socio-economic status, and the therapist must evaluate the patient's history with this in mind. Intermittent school attendance or frequent change of job may indicate not emotional instability but the effort to survive. Nor need a jail sentence have the same implications for a Negro as for a white patient (14). Freedom from psychopathic traits and a high degree of morality do not necessarily protect the Negro from arrest on suspicion in many communities.

Traumatic experiences which the Negro patient has suffered, as a direct or indirect result of discrimination, may become intertwined with his personal neurotic difficulties. Various authorities comment on the frequency in the matriarchal home, so characteristic of the American Negro, of a harsh and unstable father (13); others stress the large number of broken homes among their patients, the death of one or both parents, the desertion of the father, and the strong emotional attachment to a frustrated and insecure mother (4).

The discrimination and segregation, which the patient suffers from a rejecting,

frustrating social order, frequently revivifies emotions experienced during infancy and early childhood. Both aspects of the problem must be worked through with some patients if even symptomatic relief is to be obtained.

While an understanding discussion of problems of prejudice may be of therapeutic value, this can readily be utilized, by therapist as well as by patient, for arm-chair philosophizing which prevents a good treatment relationship from developing. Unless he is aware of his own underlying problems in this area, the psychiatrist may use such a discussion, while apparently treating his patient, in actuality to reject him.

Although the psychiatrist can do little to change the real situation, he can discuss its emotional concomitants and how these bear on the patient's present emotional maladjustment. If treatment is to be successful, no such discussion, however, can remain on an intellectual basis.

This can be illustrated with the sharpness of caricature by a consideration of patients under psychiatric treatment on hypnotic levels. If the problem of race prejudice comes up during early sessions, especially during the first two or three, race-consciousness may be expressed in the patient's resentment against the white man as such, and especially against his therapist. This may take the form, if the therapist be Jewish, of anti-Semitic remarks (10). If it occurs later during treatment, the patient almost invariably ties it up with childhood experiences toward an authority figure.

A normal school student, while being hypnotized, felt what she characterized as an irresistible urge to punch one of us (H.R.) in the jaw. She tried to keep from doing so. As her fist shot out, barely missing his face (which he had inclined somewhat to the side), she was regressed by direct hypnotic suggestion to that other time when, so she was told, she had felt exactly the same way. She immediately became a 5-year old, had just swallowed the food which her father was forcing down her throat, and wanted to kill him (10). This was handled in the same way as it would have been with a white patient.

In conclusion, two points may be stressed:

1. Most Negro patients whom we have

⁵ This seems to be in a process of change. During the past year-and-a-half, these attitudes have been rejected, at least in our clinical experience, by patients seen *privately* in consultation or for brief, goal-limited psychotherapy, who were under 23 years of age.

⁶ We are indebted to the late Dr. Ethel Nixon for demonstrating this point to us with several psychiatric clinic patients.

seen in psychiatric consultation, evaluation or treatment are, as a result of the experiences to which they were subjected because of the color of their skin, both race-conscious and resentful of the imperfections of our democracy. If therapy be attempted, whether privately or in a clinic, these feelings must be brought out into the open and collaboratively discussed. The blind spots of the therapist are of prime importance in determining the outcome of such discussions.

2. The patient is applying for psychiatric treatment. He has symptoms that are incapacitating or invalidating him. It is treatment for these—and not an intellectual discussion of race prejudice—that he needs. The personal problems of each patient are unique regardless of the color of his skin, and each must be treated as an individual.

If the white therapist bears these points in mind, his Negro patients, both private and clinic, whether individually or in groups, can and do make gratifying, very steady progress.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

PROPIOMAZINE FOR CONTROL OF INSOMNIA IN NERVOUS DISORDERS

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Insomnia, a frequent concomitant of nervous disorders, has been treated in innumerable ways, with varying success. It is generally agreed that heavy dosage of standard hypnotics should be avoided; an adequate dose of an ataraxic with strong hypnotic properties may be more desirable. This is a preliminary report of oral medication with propiomazine (Largon) for insomnia in patients under treatment for a variety of nervous disturbances in two general hospitals and a psychiatric office practice.

This compound resembles promethazine (Phenergan) in acute toxicity and pharmacological properties(1). In preanesthetic and predelivery use the compound has been injected intravenously or intramuscularly, alone or in combination with other agents, with onset of effect in 6 to 10 minutes, and duration of 3 to 4 hours(2-5).

METHOD

Propiomazine was administered orally, at random, to 17 men and 39 women, with an average age of 45. The diagnoses included psychotic depression, 33; neurosis, 15; schizophrenia, 5; and simple insomnia (wakefulness only), 4. Two were pregnant; two men and 1 woman were alcoholics; for 7 patients barbiturate and nonbarbiturate hypnotics had been tried unsuccessfully. *Dose*: Four patients with simple insomnia received 40 mg. propiomazine only, at bedtime. The others were given ataractic or antidepressant medication, or both, to control the main target symptoms: promazine, with or without meprobamate, 17; chlor-diazepoxide, 9; hydroxyzine pamoate, 3; prochlorperazine or chlorpromazine, 3;

thioridazine, 1; 27 received imipramine, chlorprothixene or nialamide, singly or in combination. When the principal medication failed to induce sleep, 40 mg. propiomazine was added, at night, 2 hours after the last dose of the other agents, and was continued 1 to 10 weeks. If no sleep occurred in 3 consecutive nights, the same dose was repeated up to 3 times a night, and occasionally was increased to 60 mg. 3 times a night. If unsuccessful in 1 week of consecutive nightly trials, treatment was stopped. Most were already under laboratory control; no special studies were done. Results were considered excellent if sleep occurred in $\frac{1}{2}$ hour, lasted 6 hours or more, and no side effects were present on awakening; good, if sleep occurred in less than 1 hour and lasted, perhaps with intermittent waking, at least 4 hours, with no side effects. Satisfactory response was obtained in 77%: excellent in 39%; good in 38%; no sleep occurred in 23%. The result was excellent in simple insomnia; there were no failures among the schizophrenics. In depressed psychotics excellent, good, and poor results occurred in about equal numbers. Of the neurotics, 80% had good results; 20%, poor. Of those who had not slept under barbiturate or nonbarbiturate sedation, 3 had an excellent, 2 a good, and 2 no result with propiomazine. Side effects occurred in 5 patients (9%), all depressive psychotics, when the dosage was increased. Three of them showed greater agitation and daytime drowsiness when the dose was raised; 4 had headache on awakening, 2 complained of dryness of mouth, and 1 of nausea. These symptoms disappeared on withdrawal of the compound. No evidence of toxicity, photosensitization or other allergic reaction developed.

¹ Champlain Valley and Physicians' Hospitals, Plattsburg, N. Y.

SUMMARY

Fifty-two psychiatric patients and 4 with severe insomnia only received propiomazine orally as a hypnotic. 1. Forty milligrams proved the most satisfactory dose; smaller amounts were relatively ineffective; larger doses did not increase the hypnotic response. 2. Seventy-seven percent exhibited a good to excellent result. 3. No toxic effects or severe side reactions were observed. Propiomazine is an effective hypnotic, comparable to the new synthetic sedative agents. Further studies are recommended.

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PROCYCLIDINE AND BENZTROPINE METHANESULFONATE COMPARED IN DRUG INDUCED EXTRAPYRAMIDAL REACTIONS

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Since the introduction of the phenothiazines there has been an increasing recognition of the troublesome and at times incapacitating extrapyramidal symptoms that are so frequently encountered. In a thorough discussion of extrapyramidal symptoms Ayd(1) points out that females are more prone to development of these symptoms and the type of symptoms encountered varies with the drug used. "Dyskinesia occurred the earliest, akathisia next, and parkinsonism last in the course of treatment."

The incidence of extrapyramidal symptoms varies widely. Ayd lists 63% incidence in females. In a report(2) published earlier we encountered 22 extrapyramidal symptoms in 25 patients treated with 40 mg. trifluoperazine daily and 12 such symptoms in 22 patients treated with a daily dosage of 1000 mg. chlorpromazine. It is generally agreed that most antiparkinsonian drugs bring rapid improvement in the majority of extrapyramidal symptoms. The purpose of this study was to compare the improvement rate with two of the commonly used antiparkinsonian drugs and to determine the incidence of side effects of said drugs.

Female patients on acute intensive treat-

ment were divided at random into two groups of 35 each. Average age 39. Thirty-one were on chlorpromazine 800 mg. daily, 20 were on trifluoperazine 40 mg. daily, and 19 were on fluphenazine 20 mg. daily.

Patients were seen every other day and the type and severity of extrapyramidal symptoms were noted (see Table 1). Group A received benztropine methanesulfonate (Cogentin) starting at 2 mg. daily and increasing by 2 mg. every other day until symptoms were controlled or a 6 mg. daily dosage was reached. Group B received procyclidine (Kemadrin) starting at 2.5 mg. daily and increasing by 2.5 mg. every other day until a dosage of 7.5 mg. was reached or symptoms had been controlled. Side effects were noted for each drug (see Table 2).

TABLE 1
Incidence and Response of Extrapramidal Symptoms
in Group A and B

GROUP	PARKINSONISM		AKATHISIA		DYSKINESIA	
	IMP.	UNIMP.	IMP.	UNIMP.	IMP.	UNIMP.
Group A— Benztropine methane- sulfonate	18	3	12	2	5	0
Group B— Procyclidine	26	1	12	0	1	0

¹ Richmond State Hospital, Richmond, Indiana.

² I would like to acknowledge the contribution made by my research assistant, Alma Hammons.

TABLE 2
Side Effects of Benztrapine Methanesulfonate
and Procyclidine

DOSAGE BENZTRAPINE METHANESULFONATE	SIDE EFFECTS	
	BLURRED VISION	DRY MOUTH
2 mg.	3	1
4 mg.	3	2
6 mg.	3	5
PROCYCLIDINE 7.5 mg.	2	0

SUMMARY

Seventy patients on acute intensive treatment with chlorpromazine, trifluoperazine, and fluphenazine were placed at random in two groups. Group A treated with benz-

trapine methanesulfonate had 40 extrapyramidal symptoms of which 35 improved. Blurred vision or dry mouth developed in 17 instances. Group B treated with procyclidine had 40 extrapyramidal symptoms of which 39 improved with the development of only one side effect—blurred vision—in two patients. On the basis of this study it appears that procyclidine was the most effective drug in alleviating extrapyramidal symptoms. The number of side effects developing with procyclidine were at a minimum.

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IMPRESSIONS OF THE POSSIBLE EFFECTS OF A NEW TRANQUILIZER, HYDROXYPHENAMATE ¹

JOHN MEYER, M.D., AND MARY BUSWELL, B.S.N.²

The title of this report is modest, and deliberately so. The writers have long believed that studies of psychiatric drugs do *not* prove their ability to "cure" or "improve" patients, and should not be reported as such. At St. Jude's our attempts to reproduce the favorable results reported in the literature have almost always led us to the conclusion that nearly all psychiatric drugs are practically worthless. The factors in every psychiatric case are so many and varied, as is well known, that the honest research man can do only what has been done here :

1. To give a drug to a group of mentally ill persons, having evaluated (in the crude fashion to which we are still limited) the "type" of illness, its symptoms and its severity in each case.

2. To observe and to question the subjects during and after treatment, noting what changes (for better or for worse) have taken place.

3. To conclude, in all humility, that the drug *may* have been responsible for some of the changes ; and to report, percentage-wise, these changes in the subjects.

During the past 6 months a new tranquilizer, hydroxyphenamate (Listica), was given in various doses (usually 1 tablet, 200 mg., 3 or 4 times a day, but in a range from 1 to 7 tablets daily) to a group of 32 mentally sick persons. Duration of treatment varied from 2 weeks to 6 months (average, 1 month).

Diagnostic "labels" were ascribed to the subjects ; but, since psychiatric diagnosis continues to be based on symptoms and is highly inadequate, the subjects were divided simply into "neurotic," "psychotic," *etc.* Statistics follow :

"*Diagnosis*" : Neurotic—25 ; psychotic—5 ; sociopathic—1 ; schizoid—1.

Sex : Male—10 ; female—22.

Age : Teens—1 ; 20's—13 ; 30's—10 ; 40's—2 ; 50's—3 ; 60's—3.

Improvement in symptoms : "Excellent"—21 (66%) ; "good"—6 (19%) ; "fair"—4 (12%) ; "poor"—1 (3%).

¹ Hydroxyphenamate was supplied by Armour Pharmaceutical Co., Chicago, Ill.

² Director and Assistant, St. Jude's Medical Research Center & Clinic, Cedar Rapids, Iowa.

New symptoms reported (possible side effects of the drug): Persistent drowsiness, mild to moderate, in 7 (22%); reduced by cutting the frequency of dosage in 5 of these 7. Other "side effects"—apparently none.

IMPRESSIONS

1. Hydroxyphenamate seems to be a potent tranquilizer, varying degrees of improvement occurring in 97% of 32 mentally ill subjects during its use, and usually persisting after it was discontinued.

2. Hydroxyphenamate seems to be of value as an aid to sleep, perhaps through the reduction of anxiety: nearly all the

subjects reported improved sleep while taking the drug.

3. Drowsiness may be a side effect (22%), but was usually reduced when dosage was cut.

4. No other side effects were reported. The drug seems to be unusually free of side effects.

5. From various experiences, the impression is left that hydroxyphenamate may possibly be helpful in combatting alcoholism, overeating, tension headaches, excessive smoking. Its effect on depression seems uneven: when agitation is a large part of the depression, there is improvement. Further research in these areas is indicated.

HISTAMINE-INDUCED VANIL-MANDELIC-ACIDURIA IN THE SCHIZOPHRENIC AND THE NON-SCHIZOPHRENIC PSYCHIATRIC PATIENT¹

PAUL KOCH, Ph.D., PIERRE LEFEBVRE, M.D.,
ROGER LEMIEUX, M.D., AND CAMILLE LAURIN, M.D.²

This study is part of a research(1-3) undertaken to establish, if possible, simple biochemical differences between schizophrenic and non-schizophrenic psychiatric patients.

Hoffer, *et al.*(4), have put forward the hypothesis that schizophrenic symptoms may be the result of adrenochrome, a toxic metabolite of the catecholamines. No increase of adrenochrome, however, has ever been demonstrated in the schizophrenic(5). Neither does Bergman(6) find any difference in the urinary excretion of catecholamines between the schizophrenic and the non-schizophrenic. Armstrong, *et al.*(7), have shown that urine contains a final metabolite of the catecholamines the 3-methoxy-4-mandelic acid (VMA). This substance is present in much higher concentrations than the parent substances and can be determined much more easily. Mann, *et al.*(8), as well as Pind, *et al.*(9), have determined VMA in the schizophrenic urine

without finding any difference from the normal urine. In accordance with previous hypotheses(1-3) we thought that inducing higher levels of catecholamines would perhaps result in a measurable difference of VMA between schizophrenics and non-schizophrenics. Haigh, *et al.*(10), as well as Rouleau, *et al.*(11), have observed a greatly increased tolerance in schizophrenics towards histamine. We thought it expedient to try histamine as a stressor for VMA-uria induction.

MATERIALS AND METHODS

Thirty-two schizophrenics, males and females, were compared to a similar group of other psychiatric patients.

On the first day all medication was suspended at noon and was not resumed until after the end of the experiment. Each subject received, however, 200 mg. chloralhydrate upon retiring to insure sleep. Fasting was enforced each day after supper, lasting until noon of the following day.

On the second day the patient was instructed to urinate at 8:30 a.m. This urine was discarded. An injection was given of

¹ This study is supported by the Canadian Ministry of Health and Welfare.

² Albert Prévost Institute, 6555 West Gouin Blvd., Montreal, Canada.

We wish to thank Miss Fernande Bastien for her excellent technical assistance.

1 ml. 1:1000 histamine phosphate (BDH., as used in gastric analysis) or an injection of saline (placebo). All urine was collected for a period of 210 minutes (until noon). On the 3rd day the same routine was followed in such a way that at the end of the experiment half of the patients had received the placebo before histamine and vice versa. The acidified urine of the first day was refrigerated until the next day, when the second sample became available. Both were assayed together for VMA according to the method of Sunderman(12). Since mictions were lost, results were calculated as milligrams VMA per gram creatinine rather than per volume. Only pairs of samples showing a similar concentration of creatinine were retained.

RESULTS

In order to minimize the great variations of VMA within each group as well as facilitate the presentation of the results, the differences of VMA between placebo- and histamine-induction (delta VMA) were employed rather than actual concentrations.

TABLE 1

	NUMBER	AGE	Δ	VMA	VARIANCE	SIGNIFICANCE
Schizophren. men	27					
	22	(21-39)		2.35	9.13	0.01%
Non-schizophren. men	33					
	19	(21-51)		-1.02	6.54	20%
Schizophren. women	29.8					
	10	(22-44)		-1.21	14.9	
Non-schizophren. women	33					
	14	(18-50)		-3.44	9.77	

DISCUSSION AND CONCLUSION

There is a highly significant increase of

VMA excretion in the schizophrenic male subsequent to histamine-injection.

Schizophrenic women would appear more tolerant to histamine. Non-schizophrenic women on the other hand may even show a depression of urinary VMA after histamine (at a level of significance of 8%).

SUMMARY

Intramuscular histamine can be used to confirm a diagnosis of schizophrenia in the young schizophrenic male. It will increase his urinary excretion of vanil-mandelic acid significantly. Histamine induced vanil-mandelic-aciduria will neither occur in the non-schizophrenic psychiatric male patient nor in any psychiatric woman patient, schizophrenic or not.

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THE EFFECTS OF G-33040 IN DEPRESSIVE STATES: A MULTI-BLIND STUDY

H. AZIMA, M.D., A. SILVER, M.D., AND D. ARTHURS, R.N.¹

The purpose of the present note is to report on a control study of a new drug, G-33040 (Ensidon).² It has an iminostilben

nucleus, with an attached piperazine side chain. Its chemical formula is: 4-[3-(5H-Dibenz [b,f] azepin-5-yl)propyl]-1-piperazine ethanol dihydrochloride. In laboratory studies it exercises a sedative action on the autonomic nervous system, has an anti-

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² Manufactured by Geigy Pharmaceuticals.

emetic, anti-histaminic, anti-serotonin action; and, like imipramine, inhibits the potentiating effect of reserpine(1).

The setting where Ensidon was tested is called "multi-blind" and has been previously described(2, 3). In this setting, three groups of patients were compared each consisting of 30 depressed patients (20 neurotic and 10 psychotic depressions in each group). One group received Ensidon and the other two inert and potent placebo (phenobarbital) respectively. The dosage regime was that of "gradual increase." Ensidon was administered with an average daily dosage of 100 mgm. (maximum 300, minimum 25), for an average period of 25 days (maximum 240, minimum 14 days). The potent placebo was administered with an average daily dose of 50 mgm. of phenobarbital and both placebos were given for an average of 21 days.

The vital statistics of the three groups were relatively similar: 9 males and 21 females in the drug group with an average age of 45; and 13 males and 17 females in the inert placebo group with an average age of 40 (potent placebo as well).

Of 30 patients in the drug group, 14 patients (46.6%) showed significant improvement (13 moderate, 1 marked). In potent placebo group, 6 patients (20%) showed moderate improvement and in inert placebo group, 5 patients (16.6%) showed significant improvement (4 moderate and 1 marked). Divided into diagnostic groups, in the drug group 11 neurotic and 3 psychotic depressions showed significant improvement; in the potent placebo group, 3 neurotic and 3 psychotic; and in the inert placebo group, 3 neurotic and 2 psychotic depressions manifested a significant improvement. It should be noted that the onset of the therapeutic response varied between patients, but on the average it was within 4-5 days.

Statistical analysis of the data (using X^2 technique) revealed the following results: Comparison of the drug with inert placebo in 30 patients was significant beyond 0.05 level ($X^2=4.93$, $0.05>P>0.02$); comparison of the drug with the potent placebo in 30 patients reached just the level of significance ($X^2=3.89$, $P=0.05$); comparison of the drug with both potent and inert placebo in 20 neurotic depressions was significant beyond 0.05 level ($X^2=5.38$, $0.5>P>0.02$).

Side effects were minimal and consisted of drowsiness in 10 patients, headache in 5, perspiration in 2 and dizziness in one. Drowsiness appeared in different degrees in all patients in the first week, and appeared to be due to sedation action of Ensidon which could be useful as a sleep regulating factor. Laboratory test data (alkaline phosphatase, white count and differential and urinalysis once a week) remained within normal limits.

CONCLUSIONS

From the data obtained from the present sample, the following conclusions may be drawn: 1) considering the rigorously controlled setting in which the drug was evaluated, Ensidon seems to be an adequately potent antidepressant substance reaching the statistical significance beyond 0.05 level; 2) the indication par excellence is that Ensidon seems to be effective in neurotic depressive states clinically and statistically and there is a relative lack of side effects and the sedative properties of this drug adds further to its suitability for ambulatory patients.

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EXPERIENCES WITH CHLORPROTHIXENE IN A STATE HOSPITAL

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¹ Respectively, Medical Superintendent, Director of Psychiatry, Danvers State Hospital, Hathorne, Mass.

Chlorprothixene (Taractan), a new potent psychopharmacologic agent, has been shown in clinical trials to have a pro-

found tranquilizing effect on patients with both psychotic and psychoneurotic disturbances, its activity primarily being directed toward states of agitation. Structurally it is similar to chlorpromazine, usually employed for tranquilizing activity, and imipramine, in general use as an antidepressant.

Chlorprothixene has been used at Danvers State Hospital for 3 years and during that time over 400 patients have been treated with this medication. This present study concerns a series of 168 patients still under active therapy either in the hospital or at home, under supervision. The criteria used for placing patients on this drug was recognition of hyperactivity, agitation or insomnia. Chlorprothixene proved to be the agent most likely to restore the patient rapidly to a quiescent and manageable state when it was given alone or in conjunction with other antipsychotic drugs. Because of our comparatively large number of admissions (1400 in 1961) and the heterogeneous nature of complaints, virtually every type of patient, many with associated medical disorders, was treated with chlorprothixene. The majority of patients fell within the 41- to 60-year age group, although a very considerable number were in the 61- to 80-year bracket. The span of treatment was from 1 month to 3 years with over one-third of the patients being under continuous therapy with chlorprothixene for 9 to 18 months. Only female patients were used in this study, primarily because of the distribution of work in the hospital.

The majority of patients received an initial dosage of 100 mg. daily. The lowest initial dosage was 15 mg., and the highest was 900 mg. Once the state of agitation was controlled, the patients were placed on maintenance therapy, the range of which varied from 15 to 800 mg. daily, the majority being maintained on 100 or 150 mg. as the daily optimum dosage.

Many of these cases were long-standing and had not shown significant improvement with other ataractic drugs. With chlorprothixene a 74% marked or moderate improvement was noted. The patients who showed marked and moderate improvement are as follows: 17 or 89% of 19 depressed patients; 35 or 70% of 53 schizophrenics;

15 or 60% of those 25 patients with chronic brain syndrome. It is our experience that this has been an extremely useful drug in our type of service for the management of the above-mentioned cases.

Side Effects. Side reactions following the use of chlorprothixene were limited or not enough to warrant discontinuance of therapy except in 1 case. Drowsiness was the commonest. Parkinsonism was observed in 2 patients; 1 patient developed a very mild form at a dosage of 150 mg. daily but had been on the drug for 8 months before this developed and therefore it was felt unlikely that the mild parkinsonism noted bore any relationship to the therapy. Changes in liver function were not noted nor were there any cases of jaundice. Pre- and intra- or post-therapy hematology was performed in 45 patients, 25%, and no abnormalities were found.

In this series mild hypotension (90/60 Hg) was observed in only 5 patients, 30%. One of the patient's records revealed that this same blood pressure reading was encountered with every similar medication given to her previously and therefore therapy was discontinued in her case. Side effects such as excitement, dryness of mucous membranes, ankle edema, stupor or depressive activity were not noted.

For the patient with agitation, hyperactivity and tension we have found chlorprothixene the drug of choice. It has been almost universally successful in depressions with agitation but ineffective in depressions without agitation. In schizophrenia, chlorprothixene has been most effective when used in conjunction with phenothiazines where psychomotor agitation was involved and in the arteriosclerotic and senile patients where these symptoms frequently present problems.

The acute withdrawal symptoms of alcoholism responded with conspicuous success to immediate and adequate treatment with chlorprothixene.

Of particular note has been the ability, unlike the phenothiazines, to control agitation in the patient with an underlying depression and at the same time not deepen the degree of depression.

For the average hospitalized patient, the starting dose was 150 mg. a day, except in

debilitated or elderly patients in which case 75 mg. per day was given. Dosage changes were not considered until at least one week

of therapy was completed, except in the aged group where many were immediately dropped because of hypotensive reaction.

CHLORPROTHIXENE IN THE TREATMENT OF PSYCHOTIC PATIENTS

JOSEPH A. BARSA, M.D., AND JOHN C. SAUNDERS, M.D.¹

Chlorprothixene (Taractan),² a thioxanthene derivative, has been reported to be effective as a tranquilizer and an anti-depressant. This paper summarizes one year's experience with chlorprothixene.

The first study consisted of 70 female psychotic patients between the ages of 16 and 70 who had been continuously hospitalized for 4 to 31 years. Their diagnoses were: 63 schizophrenia, 4 involutional psychosis, mixed type, and 3 psychosis with mental deficiency. The patients had received various psychotropic drugs for at least 4 years with little or no improvement. For the past year they received the following drugs: 23 methotrimeprazine,³ 22 chlorpromazine, 8 thioridazine, 3 proketazine, 2 promazine, 6 chlorpromazine plus trifluoperazine, 5 methotrimeprazine plus trifluoperazine, and 1 methotrimeprazine plus proketazine.

At the beginning of the study the patients showed a variety of behavior. Although all were delusional and/or hallucinating, some were tense, agitated, irritable, hostile, and approximately an equal number were withdrawn, apathetic, disinterested. The previous medication was discontinued, and the patients were placed on chlorprothixene, beginning with 50 mgs. q.i.d. The dose was gradually increased until either satisfactory therapeutic results were achieved or disturbing side effects appeared. The highest dose was 400 mgs. q.i.d., but the most common dose range was 200-300 mgs. q.i.d.

The patients remained on chlorprothixene alone for 4 to 5 months. They were then evaluated as to changes in mental symptoms. Thirteen were considered moderately improved; *i.e.*, although still delusional

and/or hallucinated, they were more alert, more relaxed, more friendly, more interested in their environment; 31 were slightly improved, 23 unimproved, and 3 appeared worse, their delusions and hallucinations becoming more pronounced.

It was observed that chlorprothixene had an excellent calming effect without rendering the patient too drowsy (until high doses were reached), and also that the drug had only slight effectiveness in combating delusions and hallucinations. We decided, therefore, to combine chlorprothixene with another tranquilizer which had stronger antidelusional and antihallucinatory action. Ninety-one patients (61 from the first group and 30 chronically disturbed schizophrenics who had not benefited for 4 years from various psychotropic drugs) were given chlorprothixene plus another tranquilizer.

The following table summarizes the results after 3 to 8 months of therapy according to the combination used:

	MARKEDLY IMPROVED	MODER- ATELY IMPROVED	SLIGHTLY IMPROVED	UNIM- PROVED
Chlorprothixene + methotrimeprazine		7	10	5
Chlorprothixene + chlorpromazine		8	8	5
Chlorprothixene + thioridazine	1	9	6	4
Chlorprothixene + proketazine		8	7	3
Chlorprothixene + trifluoperazine		3	5	
Chlorprothixene + reserpine			2	

¹ Rockland State Hospital, Orangeburg, N. Y.

² Chlorprothixene was supplied by Hoffmann-La-Roche Laboratories, Inc., as Taractan.

³ Methotrimeprazine formerly had the generic name of levomepromazine.

In general, it can be said that when using chlorprothixene in combination, the choice

of the accessory drug will depend on the prominence or resistance of delusions and hallucinations and on the degree of tension and anxiety manifested by the patient. If the delusions and hallucinations are prominent or firmly entrenched, an accessory drug with a very potent antidelusional and antihallucinatory activity will be chosen, such as a member of the piperazine group of phenothiazine derivatives. However, if tension and anxiety are foremost, then an accessory drug with a stronger sedative effect (even though it may have a weaker antidelusional and antihallucinatory action) will be chosen, such as a member of the dimethyl group of phenothiazine derivatives.

The side effects when chlorprothixene was used alone were as follows: early in therapy, 1 patient complained of dryness of the mouth, 4 experienced weak spells associated with a fall in blood pressure, 6 complained of dizziness. These symptoms disappeared spontaneously without reducing the drug dosage. Later in therapy and only when higher doses were used, 15 patients showed signs of akathisia, 7 developed parkinsonian symptoms, and 3 manifested a form of dystonia in which trunk, shoulder girdle and neck were tilted to one side. These extrapyramidal symptoms responded partially or completely to benztropine

methanesulfonate (Cogentin). More serious was the frequency of grand mal seizures. Nine patients had 1 or more grand mal seizures with a total of 21 seizures. Five patients had never experienced seizures previously, whereas 4 who had undergone lobotomies years ago had been free of seizures for at least 3 years. The present seizures were not related to rapid raising or lowering of dosage, but seemed to be the result of the dose level. The 21 seizures occurred at doses of 175-400 mgs. q.i.d. By keeping the dose of chlorprothixene below the convulsive threshold for the individual, it was possible to prevent further seizures.

In summary, chlorprothixene's greatest merit in our study was its ability to calm the excited or anxious patient without producing excessive drowsiness, and with a minimum of extrapyramidal side effects. Since chlorprothixene exerts a weak antidelusional and antihallucinatory effect, it should be combined with another tranquilizer having more potent antipsychotic action, when treating patients whose delusions and hallucinations are prominent. No antidepressant effect of chlorprothixene was observed. Finally, the intramuscular injection of chlorprothixene, 25-50 mgs., was very useful in relieving acute excitement or anxiety.

THE RELATION OF HOUSING TO BEHAVIOR DISORDER

E. A. GROOTENBOER¹

As psychiatrist-consultant to the Municipal Service for Children's Psychological and Psychiatric Welfare, I have been deeply impressed by an almost stereotypical history given by the parents of children referred for diagnosis and treatment. The story goes like this: "We spent the first years of our marriage in my mother's home," or "in the home of my father-in-law." Before World

War II couples did not begin married life this way; they were able to be more independent of their parents.

As time went on, I began regularly to include questions regarding housing and intergeneration relationships within the home when it did not come out spontaneously as a part of the history. It was,

¹ Municipal Mental Hygiene Service, Rotterdam, The Netherlands.

Few places in the world are as short of housing as The Netherlands, and in this country probably no large city has had as severe housing shortages as Rotterdam which suffered enormous destruction during the War. Dr. Grootenboer has worked in the Child Psychiatric Clinic of the Municipal Men-

tal Hygiene Service of Rotterdam for some years. In a conversation with Dr. Paul Lemkau in the summer of 1961, she ventured her conviction that housing and behavior disorder in children were clearly related in many of her cases. He urged her to write out her impressions to share with American psychiatrists, and this present note is the result. Dr. J. A. J. Barnhoorn is the Head of the Rotterdam Municipal Mental Hygiene Service.

therefore, possible for me to review the new cases in the service for one month (July 1961) to see what proportion appeared to show important factors concerned with the subject of this note.

Of the 40 new cases in July 1961, 7 appear to have significant factors related to housing and circumstances directly associated with it. Of these, 2 were typical, 2 were not so significant, while 3 were rather atypical.

The reasons for the referral of the children to the Service were different for each child and gave no hint as to the complexity of the underlying situations. The following is a very brief summary of the 4 more typical cases of the 7 showing relationship to housing problems. First the 2 more typical cases :

1. G.K., male, born July 31, 1955; neurological and intellectual functions normal; older of two children, the second having been born November 29, 1956. Reason for referral: question of readiness for school promotion. Family history: nothing significant; mother hypertensive during pregnancy with this boy; father works in a milk plant.

At the time of this boy's birth the family lived in a room 6 x 10 and they continued in this room until the boy was 3. During her second pregnancy, the mother was unable to carry the patient downstairs, so he played indoors almost all the time until he was 3, when he began to get out with his younger brother. Just after this the family was able to get a 3-room house.

The child showed lovable, proper behavior at home. He showed some jealousy of his brother at first, but later his brother seemed to dominate. At the present time the boy does not play well with other children and becomes explosive and nasty at home also. He appears to be reacting to the delay in developing independence from his mother during the long period of existence in the single, small room.

2. J.V., male, born April 23, 1953. Neurologically and intellectually within normal range. Reason for referral: difficult behavior at home and, secondly, with other children at school. Family history: maternal grandfather probably alcoholic. The emotional atmosphere in the home is rather ambivalent and tense between the grandfather and his children; father is an elevator operator in the port.

At the time the child was born the parents were living with the maternal grandparents, an arrangement which continued until the

patient was 4. The child's family was described by his mother as "three mothers and two fathers." (An older, unmarried sister of the mother was in the home at that time.) Until the boy was 4, the parents had one room of their own but for the most part lived with the whole family in the small flat. The grandmother and aunt "spoiled" the child, ignoring the mother's opinions. The mother is a rather gentle and indulgent person. The father appears to be stable.

At the present time the patient's friends are ruffians not approved by the family. Apparently he has influence among his street companions and gets on well; home appears boring to him. He has difficulty falling asleep and does not get enough sleep; also has nightmares. He was once expelled from school, gets on well with his present teacher, but has great difficulty with other children, beating them and quarreling. He is unstable in mood, and generally expansive.

Two other cases are less typical of the group :

3. H.W., male, born May 9, 1956, older of two children, second born February 21, 1959. Intellectually and neurologically normal. Reason for referral: difficult to manage at home; poor sleep, but this improved since sister removed to another room. Family history: mother spent 6 years in tuberculosis sanitarium before her marriage. Father works in a factory which makes enamelled metal products.

At the time of the patient's birth, the family lived with paternal grandparents. Paternal grandfather is a rather autocratic man with his own ideas about child rearing; grandmother was fond of the child. The mother would take the baby (patient) out of its cradle whenever it cried, day or night. Her husband cannot "stand" crying children and as he at times worked nights, he had to sleep during the day. When the child was a year old, the family found a small house. Three years later they obtained a larger house and the boy had a room of his own.

Under clinic observation the child is happy and pleasant. He appears only to need some checks on his behavior and escape from the indulgent excuses his grandmother makes for him when he is nasty.

4. D.K., male, born January 24, 1955, first of three children; second, girl, born June 19, 1957 and third, girl, born February 22, 1959. Reason for referral: difficulties in behavior—aggressive toward other children in school. Neurologically and intellectually within normal

range. Family history : no positive findings ; father works as a clerk in an insurance office.

When the patient was born, the parents were living in two of the four rooms at the disposal of the maternal grandmother and aunt, an older unmarried sister of the patient's mother. The living arrangement continued until the third child arrived, when the patient was 4. The grandmother is rather strict in handling children. Until he was 4 the child was held down a good deal and not allowed very great freedom. At home he became rather dull and dreamy. He gave no one any trouble there ; his fantasy appeared to be enough for him. There were a few quarrels with his younger sisters.

With children on the street (after the family moved) he appeared unable to defend himself but then suddenly became aggressive, striking and pushing an uninvolved child after he had had trouble with someone else. His mother described him as rather lazy and more babyish than he should be at his age. On examination the child is tense and appears over-inhibited. Needs to be freed up in emotional reactivity.

The other 3 cases of the 7 are less typical in that, although there was little space available to the families, there was more abnormality in the parents, who were cold, egocentric, *etc.* The housing factor is not quite as clear-cut a factor in the etiology of these cases as in those already described. It must be stressed that the 4 clear-cut cases and the 3 less typical are taken from only one month's first admissions, 40 cases. The problems to be answered in these cases is whether or not, or how much, the difficult start these children have had has to do with later difficulties in their behavior. One cannot be certain; too few cases have been thoroughly analyzed and necessary control studies have not been done.

Nevertheless these cases and others in my clinical experience present certain similarities. Many show prolonged infantile "babyish" behavior which results in poor social adaptability most apparent in the school situation. The children appear unable to maintain their position *vis-à-vis* other children (as in *Cases 1 and 4*). *Case 2* eventually comes to non-acceptance of adult management, and *Case 3* shows somewhat the same development. There are other children whose early histories are different but who

also show these sorts of behavior disorders. Nevertheless, the housing factor does appear important.

The general situations may be broken down into certain situations which, theoretically, may be suspected of being related to the effect noted :

First, there is the lack of privacy, present, obviously, in all the cases. The privacy of the child is not the point, though this has been important in some cases, but the privacy of the young parents. This couple cannot free their children of the care of the other members of the household, regardless of how much they may wish independence in controlling the child. As one mother put it, "My child had three mothers and two fathers." Under these circumstances, whose voice means most to the child ? Or did the chorus deafen him to all the voices ?

Second, there is the factor of spoiling, the unexpressed competition between the parents and grandparents for the love of the child. The effect of spoiling continues for years, even though the nuclear family finds a home of its own.

Third, the inconsistencies in child care are multiplied. What the mother says is unintentionally reversed by grandma or grandpa. The child senses the dependent position of his mother, that there are others more powerful than she. His mother's faults are brought to his attention—in such small space he cannot avoid hearing family quarrels.

Finally, there is the lack of privacy of the parents in their sexual activities. This may result in excessive abstinence or, on the other hand, in the exposure of the child to their sexual intimacies.

In some cases, the results of the move by the parents to a home of their own after living with others are good. Sometimes, however, the first child represents to parents a relic of bad times in the past. The reaction resulting may leave the child lonely, always wanting to rejoin the grandparents. Not having achieved acceptance at home, emotional attachment to other children is difficult and appetite for social relationships may be decreased. The result is referral to clinic for all areas of social maladjustment : to school, to classmates, to all of society at times.

This housing factor appeared to be more troublesome during the severe shortage after World War II, because people were not accustomed to the kind of life they had to live. Before the War there were populous areas where families lived like clans more or less, but it was not necessary to stay with the clan unless one wished to. Nowadays simply everyone starts married life in somebody else's house. Furthermore, the old "clan-like" family life is considered old-fashioned and outmoded.

SUMMARY

Clinical experience has left the impression that housing situation of the nuclear family is related to the behavioral health of the children. Cases of varying degrees of typicalness are briefly presented to illustrate this situation. It remains to be seen how important and separable a factor this may be and to what extent it is important as an etiological factor.

It is hoped that having called the situation to attention more may be done to see that the child is protected from any ill effects.

USE OF AHR 437¹ IN BEHAVIORAL PROBLEMS

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AHR 437 is a new agent [5-(2,6-dimethylphenoxy)methyl)-2-oxazolidinone] which was given a clinical trial on 12 children. It was one of a sequence of compounds studied in these children, thus its activity could be compared with chlordiazepoxide, mephenoalone, and amytriptyline.

Eight of the 12 children were in the 6- to 10-year-old group and 11 were boys. Eight were classified as hyperactive and 4

termed as behavior disorders and adjustment reactions. Five of the cases were carried on dosages under 800 mgm. per 24 hours; 7 received up to 1600 mgm. per 24 hours. The average length of treatment was 4 weeks. The results were that 66% of the children showed no change. The remaining cases showed slight alterations that could be called fair (+).

CONCLUSIONS

AHR 437 in a series of 12 children with hyperactivity and behavior disorders demonstrated no therapeutic effect in 66% of the cases.

¹ AHR 437 was furnished by A. H. Robins and Co., Richmond, Va.

² Respectively, Director of Child Psychiatry, Fellows in Child Psychiatry, Houston State Psychiatric Institute, Houston, Tex.

SERUM GLUTAMIC-OXALACETIC TRANSAMINASE AND CEPHALIN-CHOLESTEROL FLOCCULATION TESTS IN ACUTE PSYCHIATRIC ILLNESSES

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DeJong and St. John(1) reported from a state hospital population 44.6% of 56 female and 15.2% of 59 male patients with non-catatonic schizophrenia gave positive reactions to cephalin flocculation tests (CCF)

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as compared with 6.9% of 121 control subjects. Zimmerman, *et al.*(2), could, however, find no increase in the percentage of positive CCF tests in a study of 175 schizophrenic and 210 non-schizophrenic chronic psychiatric inpatients as controls. Oltman and Friedman(3) could find no differences

in the incidence of positive CCF and thymol turbidity tests performed on various groups of 878 state hospital patients.

These studies were performed on schizophrenic populations in chronic hospitals; and sufficient data are now available to indicate that aberrations of liver function in chronically hospitalized schizophrenics are probably due to nutritional deficiencies, viral hepatitis, or helminthiasis in certain ward populations. Hepatic function has never been assessed in an *acute* psychiatric hospital in any systematic fashion, however, and the authors of the present communication decided that such a study would be of merit.

Nikolenko, *et al.* (4), reported the somatic disturbances observed before initial hospitalization and during hospitalization of 200 cases of schizophrenia. They noted that the onset of the disease was characterized by an "influenza-like" picture with symptoms of pyrexia, general malaise, headache, cardiovascular disturbances, and disturbances of the gastrointestinal tract and kidneys. This and other studies cited in the same volume were taken by the Russian Malis to indicate an exogenous infectious etiology of schizophrenia, viral in nature. If such an hypothesis were, in fact, true an increased incidence of positive CCF or serum glutamic-oxalacetic transaminase (SGOT) tests might be expected in acute schizophrenia or in other acute psychiatric illnesses with such an etiology if there were liver involvement or cellular damage in other organs.

Seventy-five consecutive admittances to the ward psychiatric service of the Renard Hospital and the Washington University Dept. of Psychiatry, St. Louis, Mo., were subjected to the usual clinical psychiatric evaluations and given a clinical diagnosis in accordance with the Standard Nomenclature of Mental Disorders of the American Psychiatric Association. Renard Hospital is a psychiatric hospital attached to a large general hospital and accepts all types of psychiatric problems for admittance but in a practical sense admits and treats only patients with acute psychiatric illnesses. On admission a CCF and a SGOT were obtained on each patient.

The CCFs were performed according to the method of Reitman and Frankel (5) and the SGOTs according to the method of Hanger (6). In the clinical laboratories of Barnes Hospital the CCF is negative if read 0, 1+ or 2+, and positive if 3+ or 4+ at 48 hours; the SGOT is negative if less than 40 units, borderline if between 40 and 50 units, and positive if above 50 units.

The results of the SGOT and CCF determinations are tabulated below by diagnostic category.

SUMMARY

A series of 75 consecutive psychiatric admissions were assessed for clinical diagnosis and laboratory determinations of CCF and SGOT. All CCF were negative. No instance of positive SGOT determination was found in the absence of specific and additional intoxication or metabolic dysfunction.

TABLE 1

DIAGNOSTIC CATEGORY	CCF		TOTAL	SGOT		TOTAL
	POSITIVE	NEGATIVE		50+ UNITS	50 OR LESS	
Schizophrenia	0	18	18	0	18	18
Manic-depressive	0	28	28	0	28	28
Conversion reaction	0	7	7	1	6	7
Anorexia nervosa	0	3	3	1	2	3
Anxiety reaction	0	1	1	0	1	1
Obsessive-compulsive	0	3	3	0	3	3
Passive-aggressive	0	2	2	0	2	2
Antisocial	0	1	1	0	1	1
Acute & chronic brain syndromes	0	12	12	4	8	12
Total	0	75	75	6*	69	75

* Assessment of each patient with elevated SGOT level revealed additional factors not common to the diagnostic group: these factors were alcoholism with hepatomegaly, starvation-ketosis, severe bronchial asthma, myxedema, and barbiturate intoxication.

tion. This would tend to negate assertions that schizophrenia and/or other psychiatric illnesses are associated with hepatic dysfunction or *significant* cellular damage in other organ systems.

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IMIPRAMINE IN THE TREATMENT OF ADULT ENURETICS

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There have been clinical notes reporting favorable results through the use of imipramine for bed wetting. MacLean(1) reported favorable results with children. Munster, *et al.*(2), reported favorable results with hospitalized female psychotics ages 8-16.

This is a study of 30 male Army basic trainees who range in age from 17-23. They were referred to the Mental Hygiene Clinic, Fort Knox, Ky., with the complaint of enuresis. A double blind design was used with half the subjects given 50 mg. imipramine and instructed to take the medication at bedtime, and half the subjects given lactose, in a capsule of the same appearance with the same instructions. Assignment to the groups was on a random basis. The subjects returned to the Clinic after 2 weeks for follow-up.

Of the 15 subjects in the medication group, 6 reported improvement. Eleven of the 15 in the placebo group reported improvement. None of the 30 subjects reported any worsening of their condition.

Two types of comparisons may be made. One is between the rate of bed wetting prior to the medication being administered and the rate reported after 2 weeks of medi-

cation. This comparison should also be made for the control group. The second type of comparison is between the rates at follow-up of the medicated versus the placebo group.

By use of the Walsh Test(3) it can be shown that there is a significant (.05 level) decrease in the rate of bed wetting in the imipramine group. There is also a significant decrease (.01 level) in the placebo group.

The initial rates of the medicated and control groups were compared by a Mann-Whitney U Test(3). It was found that the groups did not differ initially on rate of enuresis. This is to be expected because of random assignment. A similar comparison was made at follow-up, and again there was no significant difference between the Tofrānil and placebo groups.

We have found that both Tofrānil and a lactose placebo were successful in significantly decreasing the rate of enuresis in a group of 30 Army basic trainees. There was no significant difference between the efficacy of the Tofrānil versus the placebo.

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CASE REPORTS

THE USE OF HIGH DOSAGE DEPROL IN ALCOHOLIC AND NARCOTIC WITHDRAWAL

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Our previous work with meprobamate² has suggested to us that the drug might have proven efficacious in many instances of reported therapeutic failure, had an adequate dosage been used. The dose of any medication varies with the individual and we may frequently do ourselves and our patients a disservice if, in the absence of side effects, we discard a drug simply because no adequate response is met at or near the manufacturer's suggested dosage. Indeed there are times when even side effects may be used efficaciously if the workings of a drug are thoroughly understood. The following illustrative case may prove of interest.

The patient was a 47-year-old married, white male of the "driving executive type." His activities necessitated his working some 12 to 16 hours daily (frequently including Sunday) and under this strain he had become alcoholic, going on prolonged drinking binges, having "blackouts" and being apparently unable to stop drinking once he had started. Concomitantly he was habituated to barbiturates and purportedly had been taking various narcotics off and on for two years. We were asked to manage his withdrawal on an outpatient basis.

Our previous work with high dosage meprobamate suggested this drug as a tranquilizing agent. The somnolent side effect of high dosages of this drug suggested its value in a patient who was habituated to barbiturates. Deprol was used with the thought that the antidepressant and anticholinergic action of benactyzine would facilitate the effect of meprobamate.

The patient was started on Deprol, 5 tablets (2 gm. meprobamate plus 5 mg. benactyzine) and fluids. His wife and the attendant nurse were instructed that the therapeutic "unit" was 5 tablets and that any time the patient requested medication of any kind

he should be given one unit. The physician was in frequent but inconstant attendance.

The dosage, therefore, varied with the demands of the patient. The somnolent side effect of the medication kept the patient relatively bedfast and hence manageable, although he would sit on occasion on the edge of the bed and leave it several times daily to go to the bathroom. The patient was tired, but at no time was his sensorium unclear. On three or four occasions during the first 48 hours a slight slurring of speech was noted. On the third day the patient complained that Deprol made him slightly unsteady on his feet, but with the decrease of medication on the fourth day this complaint disappeared.

By the fourth day the patient was reasonably alert and was requesting less medication. Deprol was therefore gradually decreased and finally discarded at the end of the seventh day. At no time were any symptoms attributable to withdrawal from alcohol, barbiturates, narcotics or, later, from Deprol noted.

The actual dosage range used varied from 50 tablets of Deprol (20 gm. meprobamate plus 50 mg. benactyzine) on the first day, through 35 Deprol on the second and third day, 21 on the fourth day, to zero by the end of the seventh day. On the fourth day the "unit" was changed from 5 to 3 tablets so that, although the patient requested medication as frequently as before, he actually received less.

Unfortunately a prolonged follow-up was not possible. However, we make no claims for the medication as a cure for addiction or alcoholism, rather only as an agent for the facilitation of withdrawal.

SUMMARY

In this case Deprol in dosage as high as 50 tablets daily (20 gm. meprobamate and 50 mg. benactyzine) proved efficacious in alcoholic withdrawal. The authors feel that Deprol in the hands of physicians experienced in its use may prove efficacious in areas where hitherto failures have been reported because of inadequate dosage.

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² Snow, L., Rickels, K., and Morris, H.: *Am. J. Psychiat.*, 119 : 369, 1962.

PROLONGED RETENTION OF URINE DUE TO AN ANTIDEPRESSANT DRUG

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A 73-year-old woman was admitted to hospital suffering from depression. Intellectually she was well preserved, showed only the degree of dementia appropriate to her years, had complete insight into her illness and was co-operative in every respect. Physical examination showed no abnormality in any system and she gave no history of physical disease. There had been no previous disturbance of bladder function.

Normally she would have been given ECT but was included in a trial group receiving antidepressant drugs and was given amitriptyline hydrochloride (Tryptizol), 50 mg., t.d.s. Fifteen days after the commencement of Tryptizol therapy she complained of pain in both loins, observed that she had not passed urine for over 24 hours and that she felt no desire to do so. A dribbling incontinence caused her great distress. Examination revealed a bladder up to the umbilicus with bilateral renal tenderness. Firm manual pressure of the distended bladder caused no pain or discomfort and no desire to micturate. She was catheterised and 62 ounces of urine were withdrawn.

Observing the manufacturer's warning that Tryptizol has "definite anticholinergic activity" the drug was stopped forthwith. The patient was examined daily thereafter, on each occasion the bladder was found to be distended and she required to be catheterised twice daily. On the fifth day, as no measure of voluntary control of bladder function had been regained, she was given carbachol, 5 mg. twice daily by subcutaneous injection for 5 days, but with no improvement in her condition. The bladder was found to be distended on each of the 5 days and catheterisation had to be continued, 50 ounces being withdrawn on one occasion. Carbachol was discontinued and, although partial bladder control was regained 6 days later, twice daily catheterisation had

to be resorted to for a further 17 days before normal bladder control was regained and catheterisation could be abandoned, i.e., 27 days after the onset of urinary retention.

At no time did the patient have any other symptoms or signs of autonomic dysfunction. Repeated neurological examination revealed no abnormality in the CNS. All reflexes were brisk and equal, the plantars were flexor, there was no paresis or spasticity of the lower limbs and all modes of sensibility, cutaneous and deep, were unimpaired. The blood W.R. was negative.

It is interesting to note that there was no potentiation of the anticholinergic effects of Tryptizol by imipramine (Tofranil) which was prescribed for her, 50 mg., t.d.s., on the 17th day of the period of urinary retention.

The patient stayed in hospital a further three months after this episode and during that time there was no evidence of further disturbance of bladder function, neither has there been on the two occasions she has attended as an outpatient in the six weeks since her discharge from hospital.

SUMMARY

A case is described of urinary retention lasting 27 days after 15 days' treatment with amitriptyline hydrochloride (Tryptizol). The interesting features are 1) the long duration of the condition after the drug was stopped and 2) the failure of a cholinergic drug (carbachol) to counteract the anticholinergic activity of Tryptizol.

The case demonstrates the necessity for daily examination for urinary retention of patients receiving amitriptyline HCL, particularly of cases who cannot be expected to make spontaneous complaint of urinary symptoms, due to dementia, depression or apathy.

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HISTORICAL NOTE

KARL KAHLBAUM'S IDEAS ON PEDAGOGICAL TREATMENT OF MENTALLY ILL CHILDREN

ERNEST HARMS

Hidden away in the small print section of the 40th volume (1883) of the *Allgemeine Zeitschrift fuer Psychiatrie* is a reprint of a lecture given by Karl Kahlbaum before the 47th meeting of the Berlin Psychiatric Association on June 15, 1883. The 11-page reprint is entitled "About Nervously and Mentally Diseased Juveniles and Their Pedagogical Treatment in Institutions." Karl Kahlbaum has never received the acknowledgment he merits in the history of psychiatry. Those who reject him consider him "the fellow from a small East German private institution who made up so many strange and unnecessary words and titles." Those who esteem him consider him the originator of the concept of catatonia and hebephrenia. Kahlbaum's concept of hebephrenia was similar to the concept of pubertal neurosis held by British workers of the same period. His refined description of the condition must be designated the first realistically established concept of child psychiatry. In the lecture referred to, Kahlbaum pleaded for specific handling—what he called "pedagogical treatment"—of institutionalized juveniles. The point of view presented in the lecture shows a unique understanding of what we today call child psychiatry and represented a significant forward step in the history of the treatment of the mentally abnormal child. The lecture begins with an observation on the increase in the number of 14- to 25-year-olds afflicted with nervous and mental diseases of both the acute and chronic kind, including practically every known form of insanity. Kahlbaum, however, observed a specific juvenile deviation which took the form, on the one hand, of "ethical peculiarity and perversity," and, on the other, of "a more or less pronounced intellectual limitation and weakness." Because in a number of these cases one or the other of these symptoms was so dominant, it appeared justifi-

able to consider them two autonomic forms of mental disease. Although Kahlbaum was not able to provide proofs of the validity of his concept, he nevertheless presented—in 1883—a definite formulation of specific forms of juvenile mental disease.

In the lecture, Kahlbaum described in great detail what he called "ethical and intellectual pathology in youth." Ethical pathology, which can be of both negative and positive character, is seen in the form of laxity in responsibility and social and familial feelings, up to the point of crude egotism, and also in the form of ethical pathological "purism." In either form it disturbs the development of a life concept beneficial for the individual and others. In the case of intellectual weakness, the concern is not only with the inability to learn, but also with the "weak" tendency toward fantasy and lying, the latter condition also appearing in two forms—the "floride" and the "torpide."

Viewing these forms of juvenile psychopathology from the etiological aspect, Kahlbaum notes, one must first consider hereditary factors; in a preponderant number of cases the parents of such children are nervous people. Another element to be taken into account is physical disease and physical "pauperization," or undernourishment. Orphanage is also named as a frequent serious etiological factor in childhood psychopathology. Still another element is a false, too strict, or over-protective and lenient attitude on the part of the parents. Poor marital relations between parents and other negative circumstances of the family situation must also be seriously considered as important factors in the illness of the child. Kahlbaum was evidently well aware of the pathological social elements in child psychiatry which we today maintain were first recognized in our century.

Kahlbaum emphasizes individual treat-

ment as a basic factor in the treatment of institutionalized mentally ill young persons. First, physical impairment must be treated. Occupation and opportunities for study for those patients for whom study is possible are important elements in treatment. This broadened treatment of juvenile patients Kahlbaum calls "medical pedagogy," and this type of institutionalization he calls "medical pedagogium."

Kahlbaum developed a specific system for the "medical pedagogium": first, patients should be physically well and well-rested; they should not be overburdened with learning; free choice should be a major therapeutic element; physical and mental activity should be combined harmoniously. It is interesting that Kahlbaum emphasizes as another element in these cases—one that is today so frequently attacked first—the habitual and manic pattern of bad behavior. Kahlbaum describes in some detail the practical functioning of the "pedagogium" in his own institution: he had three resident teachers who were with the juvenile patients all day and who applied group and individual care according to the needs of the individual child. Handicrafts, art education, gymnastics, and gardening were also employed in treatment. As to academic instruction, Kahlbaum advised no imposing of specific instruction, but rather a con-

tinuation, as far as possible, of previous school status and instruction. He reported that he had been able to train his patients to the point of vocational adjustment. Some of his patients became booksellers and office clerks, and some became professionally active in the creative arts and in farming. Kahlbaum's methods demanded not only treatment for actual pathology, but character development and what he called "psychological propedeutic," by which he meant the imparting of a certain knowledge of controlled behavior. In spite of the emphasis on adjustment to the individual needs of the patients in his child psychiatric clinic, Kahlbaum instituted a definite daily routine: three hours of intellectual instruction followed by two hours of mechanical and artistic occupation in the morning, with afternoons given to trips, gymnastics, gardening, and games.

Kahlbaum's "pedagogium" was for a time famous in Middle-Europe, but it was soon entirely forgotten. It represents the first full-developed system of institutional care of mentally ill children, some of the treatment procedures of which are to be found today only in the most modern and progressive child care programs. Its initiator, a courageous pioneer, should not be forgotten or left out of the history of child psychiatry.

COMMENTS

TELL ME NOT IN MOURNFUL NUMBERS

Our mass media of communication have done a thorough job of dinning into the public that one of four Americans is doomed to have cancer. Lay and medical guardians of the nation's health do not tire of impressing us with figures about the prevalence of heart disease, arthritis, nephritis, obesity, diabetes, alcoholism, blindness, deafness, accidental injuries, and many other afflictions. I.Q. statistics "reveal" that a substantial portion of the population does not measure up to what the academicians have calculated as the criteria for intellectual normalcy. Some of our colleagues, reinforced by extra-professional Cassandras, keep telling us that at least one in every ten persons is sorely in need of psychiatric care. Thus, of 180 million people in the U.S.A., 45 million are said to be cancer victims or candidates, and 18 million supposedly cry out, or should cry out, for assistance because of emotional woes. If you add up all the numbers offered for the various and sundry maladies and anomalies, you may discover that there are more sick people around than the total number of inhabitants recorded by the census takers; you will be forced to conclude that the only way to account for this discrepancy is by making allowance for some overlapping.

What is the purpose in evoking this spectre of a lamentably decrepit nation? It is not too difficult to understand the zeal of campaigners in the fund drives for whatever illness it is that the public is admonished to make monetary contributions. In the established tradition of the advertising trade, the donor must be made to feel that he personally is the potential beneficiary of his largesse. The more widespread, the more universally threatening a disease is claimed to be, the more readily will the expected giver regard himself as included in the dire consequences of his failure to respond to the plea.

However, one is entitled to start with the premise that psychiatry, beyond trying to help individual patients, aims to alleviate

anxieties instead of creating them. If this is correct, it seems neither necessary nor wise for its practitioners to upset themselves and others with panicky anticipations of impending disaster. To be sure, the idea of prophylaxis has been a boon to mankind and the source of immeasurable progress. Prevention means the sum total of efforts to maintain health, not an exercise of throwing inkwells at a devil painted on the wall by a frightened imagination. Prevention means, for the community, the steady improvement of social conditions and, for the individual, a constructive modification of unwholesome trends. It definitely does not mean the kind of professional obsessiveness which wants to press every comer into the strait jacket of suburban propriety. Nor does it prescribe a frantic search for the pre-neurotic, pre-delinquent, and pre-schizophrenic. These are self-defeating terms; they denote a fatalism which foresees calamity even before there is any and paralyzes therapeutic enthusiasm. This tendency has recently assumed the form of trying to feed computers with data which would unfailingly predict future behavior. Fortunately the computers have no control over the feeders, and this deprives them of inexorability.

The story goes that several prominent university professors were engaged in a discussion of optimism and pessimism. One of the scholars gave an illustration of what he thought to be invincible optimism. He told of a young man who, on a delightful summer morning, walked along a beautiful shaded alley entertaining pleasant thoughts, when suddenly a bird dropped something on his bare head. Far from being irked, the young man explained happily: "How wonderful that cows are not flying around!" Dr. Adolf Meyer, who had sat silently through the conversation, pensively stroked his beard and said: "I do not believe that your man was an optimist at all, I am inclined to regard him as a profound pessimist—because he envisioned the worst."

Dr. Meyer was neither an optimist nor a pessimist. He preferred to speak of himself as a *meliorist*. Nothing is gained by the wholesale distrust in the present and future health of one's contemporaries. It is, of course, helpful to get the attitudinal and financial assistance of private philanthropic and governmental donors, but not for the price of declaiming numerical scares. It would be an insult to the nation to shout from the rooftops (as is sometimes being

done) that its physical and mental welfare depends solely on monetary appropriations. In spite of all the mournful numbers being circulated, the vast majority of our young, middle-aged, and "senior" citizens are sound, self-reliant, and productive people. Physicians, including psychiatrists, are ready to do their best to help those others who are in need of help and, as time goes on, to improve on that which is their best now. L.K.

STUDY OF BIOLOGY AS "UTILITY"

I think that knowledge of every kind is useful in proportion as it tends to give people right ideas, which are essential to the foundation of right practice, and to remove wrong ideas, which are the no less essential foundations and fertile mothers of every description of error in practice. And inasmuch as, whatever practical people may say, this world is, after all, absolutely governed by ideas, and very often by the wildest and most hypothetical ideas, it is a matter of the very greatest importance that our theories of things, and even of things that seem a long way apart from our daily lives, should be as far as possible true, and as far as possible removed from error. It is not only in the coarser practical sense of the word "utility," but in this higher and broader sense, that I measure the value of the study of biology by its utility.

—THOMAS H. HUXLEY (1876)

CORRESPONDENCE

DRUG EVALUATION IN PSYCHIATRY

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : There was a time when an ethical physician hesitated to give a report of his clinical impressions or statistics of results with a particular drug. He was afraid that he might be suspected of being biased and possibly paid by the drug manufacturer. In recent years the fear of a physician of exposing himself to this criticism has subsided, and rightly so. The drug industry has helped many patients and doctors in their efforts toward improvement of disorders which would not have been possible without close cooperation of manufacturer and clinician. The clinician is no chemist, and the manufacturer is no doctor. The necessity of close cooperation between the industry and the doctor is therefore generally acknowledged.

A little skepticism remains but this skepticism has been partly dispelled by the introduction of the so-called double blind study. That is : the patient did not know whether he received placebo or the drug and the doctor did not know which patient received what. Strenuous effort has been made to eliminate all accessory factors which might confuse the picture, and in some studies (the triple blind study) even the evaluating personnel did not know what therapy was employed and who was treated. Yet it appears that many, if not most, clinical studies on drug action in psychiatry are of very little value or misleading.

At a recent meeting of the American Psychiatric Association a majority of papers dealt with the evaluation of drugs. Many exhibits, as customary, tried to impress the onlooker with the value and advantage of one drug over another but in the eyes of an objective observer it appeared that most of these studies were a waste of energy, money and time of all concerned.

To substantiate this statement let us briefly examine one session at this meeting. The serious investigator, a psychiatrist who

has learned much chemistry and pharmacology, reported a statistical study on intravenous administration of an "antidepressant" drug. He had selected 60 depressed patients at random—all suffering from depressive symptoms—and felt that the random selection of patients made his study more objective. In his group he had psychotic depressive patients, manic-depressives, neurotic depressions, young patients as well as seniles, agitated depressions, retarded depressions, *etc.* He reported good results, mediocre results and no results in certain percentages of patients.

Now the various forms of depression admittedly not only vary in their predominant manifestations but are also admittedly based on different etiology. Without attempting lengthy reasoning let us assume the hypothetical fact that another investigator, a dermatologist for instance, reports instead of an "antidepressant" drug on an "anti-rash" drug. Does this sound like a Utopia ? It is not. Rash merely is a symptom and so is depression. What value is there in evaluating a drug or chemical by statistics when the drug has been administered to rashes indiscriminately, whether they are syphilitic, allergic or occupational in nature and by the same token what value is there in measuring results of one drug upon one symptom of mental disorders of various etiologies ? The symptomatic relief of the itch through a topical anesthetic in dermatology may be valuable. Similarly the relief of cough by an antitussant may be welcome but the patient may still die of lupus erthematosus or lung cancer. In many psychiatric conditions not even dependable symptomatic relief can be promised by any drug.

Unfortunately the etiology of mental illness is still vastly unexplored. Some is understood as for instance some organic disorder ; but in the field of functional disorders very little is known about etiology although some progress is being made too. This progress is what is needed. In other

words, basic research into the etiology of mental disorder is necessary because we know now that in spite of Freud's discoveries, only part of the cause is based on environmental and psychological factors. It is not useless to evaluate a drug and its effect on mental disorders caused for instance by neurosyphilis. Such evaluation is helpful because we know the etiology of the disorder. But the tremendous effort

spent in an attempt to evaluate drugs in the treatment of disorders the etiology of which is entirely unknown by observing the effects on one of the symptoms seems a tremendous waste of able minds. These minds could be put to work on more constructive tasks instead of confusing the clinician with reports and statistics which mean little or nothing.

Carl Breitner, M.D.,
Phoenix, Arizona.

PARENTERAL MAGNESIUM AND DELIRIUM TREMENS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : Our previous clinical note (Am. J. Psychiat., 118 : 1042, 1962.) on the treatment of severe acute brain syndrome attributable to alcohol indicated that magnesium sulfate was of value particularly in preventing the development of delirium tremens.

Fortunately we evaluated 100 additional cases in a similar double blind study except

that the cases were randomly assigned to magnesium sulfate or the saline placebo by code number. The statistical values previously observed were not present in the extended series and no difference was noted in either the prophylactic or therapeutic response of the two groups at the dosage level used.

Ernest Beroz, M.D.,
Peter Conran, M.D., and
Robert W. Blanchard, M.D.,
Waltham, Mass.

Note by the Editor.

In a letter from R. George Christie, M.D., referring to a quotation attributed to Mr. N. Khrushchev used as a filler in the September issue of the Journal is the following interesting information :

"Congressman Morris K. Udall (NEW REPUBLIC 7 May 1962) asked the Library of Congress to check this out and he got the following reply : 'We have searched

the Legislative Reference Service files, checked all the standard reference works on quotations by Khrushchev and consulted with the Slavic Division of the Library of Congress, the Department of State, and the US Information Agency, in an attempt to determine the authenticity of this quotation. From none of these sources were we able to produce evidence that Khrushchev actually made such a statement.'"

SPECIAL REPORTS

THE CURRENT STATUS OF POSTGRADUATE PSYCHIATRIC EDUCATION

HENRY KRystal, M.D.¹

The following is a report of a survey of the status of postgraduate education for practicing psychiatrists given by American colleges—exclusive of psychoanalytic institutes affiliated with medical schools. The survey received responses from heads of departments of psychiatry. Of the responding colleges, 43 indicated a conviction that postgraduate education was the responsibility of medical school psychiatry departments not only in the areas of education for general practitioners and other specialists, but also for psychiatrists. However, only 19 departments of psychiatry had in the past or were now offering such courses (51% of respondents, 35% of medical schools). Five other colleges were planning or preparing postgraduate psychiatry teaching for the near future. Five respondents denied this area to be the responsibility of medical schools, feeling that this function is carried out by professional societies.

The great majority of respondents reported good to excellent response by their psychiatric communities in terms of their active participation in the courses. Two-thirds, however, cautioned that such a response can only be expected after a careful preparation of the psychiatrists in practice for the idea of continuing education. When the availability of such courses was adequately publicized, the attendance was usually adequate, especially by the younger men.

The respondents indicated that psychiatrists tended to take the continuing education courses for the following reasons: 1. "To fill in gaps in training" (5 responses); 2. "To prepare themselves for the boards" (3 responses); or 3. "To get help in the handling of transferences" (5 responses). Other respondents emphasized those areas

of psychiatry in which much research is being done, necessitating that the practitioner "keep up" with them, and refresh his training periodically. The "rounding out" of one's training as a means of complementing a one-sided orientation residency training seemed to be of special concern to the educators.

The responses to our questionnaire indicated that preconceived notions about the subjects of the courses to be given are not always supported by experience. This is suggested by the fact that the psychiatry departments which had offered postgraduate courses in the past listed the subjects most highly recommended in a different order than the inexperienced group.

The preferred-subject responses of the experienced group, arranged in order of decreasing popularity, were: 1) psychotherapy; 2) addictions; 3) genetics; 4) psychiatric emergencies; and 5) age-specific conflicts. The respondents who had not given postgraduate courses for psychiatrists in the past recommended subjects in the following order: 1) psychotherapy; 2) depressions; 3) psychiatric emergencies; 4) new drugs; and 5) psychophysiological research. Other topics were recommended by both groups with equal frequency or showed no particular trend.

The impression gained from the responses was that there was a certain timidity about offering postgraduate courses without proof of a popular demand for them, but once offered the courses evidently were continued permanently.

SUMMARY

A questionnaire sent to the departments of psychiatry of the colleges of medicine in the United States revealed that 82% of responding colleges felt that continuing psychiatric education is the responsibility of the medical schools. Since 62% of the col-

¹ Dept. of Psychiatry, Wayne State University College of Medicine, Detroit, Mich.

leges responded, this represented about 52% of all American medical schools. Only 19 responding colleges were offering such courses at the time, and five more of them had such courses in preparation. Most respondents felt that a preparatory period of advance preparation via advertising and

notices addressed to the practicing psychiatrists should precede the offering of the courses and would substantially improve the response.

There seemed to be little question in the minds of our respondents that there is a need for postgraduate psychiatric education.

TRANSCIENCE

We traveled empty-handed
With hearts all fear above,
For we ate the bread of friendship,
We drank the wine of love.

Through many a wondrous autumn,
Through many a magic spring,
We hailed the scarlet banners,
We heard the blue-bird sing.

We looked on life and nature
With the eager eyes of youth,
And all we asked or cared for
Was beauty, joy, and truth.

We found no other wisdom,
We learned no other way,
Than the gladness of the morning,
The glory of the day.

So all our earthly treasure
Shall go with us, my dears,
Aboard the Shadow Liner,
Across the sea of years.

—BLISS CARMAN

NEWS AND NOTES

LEGAL TEST FOR INSANITY.—In "The Insanity Defense—An Effort to Combine Law and Reason," in the *University of Pennsylvania Law Review*, 110 : 771, 1962, Richard H. Kuh reviews various tests of criminal responsibility, including the McNaughton Rules, Irresistible Impulse, the Durham Standard and the American Law Institute Proposal. He has set out the arguments for and against each test lucidly and objectively. His text is documented with references to both medical and legal authorities of a thoroughness unsurpassed by any similar writing which the reviewer has read anywhere.

The latter part of the article contains a "proposed psychiatric offender law." The essence of the proposal is that these issues be tried by a judge without a jury. This has been suggested before but not in the form herein proposed. Many of the objections are dealt with so as to make the proposal a practical one. There is one objection that is not mentioned: in a jurisdiction where the death penalty is mandatory for murder, there is likely to be an aversion to vesting the adjudication in a judge alone.

The article is highly recommended for either psychiatrists or lawyers as an authoritative source of information about the various legal tests for insanity as a defence in criminal cases.

K. G. G.

TWENTY-THIRD INTERNATIONAL PSYCHO-ANALYTICAL CONGRESS.—This Congress will take place in Stockholm, Sweden, under the auspices of The Swedish Psycho-Analytical Society, from July 28 to August 1, 1963, inclusive.

Inquiries with regard to the administration of the Congress should be addressed to L. Börje Löfgren, M.D., Chairman, Congress Organising Committee, Narvavägen 25, Stockholm Ö, Sweden. Those wishing to present papers should contact the Chairman of the Program Committee—David Beres, M.D., 151 Central Park West, New York 23, N. Y.

DR. ROSSMAN WILL HEAD NEW BRONX HOSPITAL.—Dr. I. M. Rossman, director of the Gowanda (N. Y.) State Hospital, has been appointed to take over the administration of the Bronx State Hospital which will be opened in 1963. This institution is the first new mental hospital to be built by New York State in 30 years.

Dr. Rossman graduated in arts and medicine from the University of Toronto and has been in the New York State service since 1930. He has directed the Gowanda hospital since 1954.

ALLAN MEMORIAL INSTITUTE.—Dr. D. Ewen Cameron, Chairman of the Dept. of Psychiatry, McGill University, and Director of the Allan Memorial Institute, reports that work has begun on the new research building which is expected to be completed in about nine months. It will be a five-story structure. It is a University building located with direct connection to the Institute.

One hundred and five graduate students representing 31 nationalities are enrolled in the four-year diploma course in psychiatry at McGill.

THE SOUTHERN CALIFORNIA PSYCHIATRIC SOCIETY.—The Society will hold its convention meeting October 19-21, 1962 at the Hotel Biltmore in Santa Barbara, Calif.

The principal address will be given by Louis J. West, M. D., Professor of Psychiatry, University of Oklahoma. Papers and workshops will deal with day-care programs and conjoint family therapy.

NATIONAL INSTITUTES OF HEALTH RESEARCH IN AGING.—Three brochures have been issued by the NIH, *Research Highlights in Aging*, *Activities of the National Institutes of Health in the Field of Gerontology*, and *Research Programs in Aging*. Single copies are available from the NIH on application.

BIOGRAPHY OF ADOLF MEYER.—Pertinent material—letters, papers, personal reminiscences, photographs, and other items of biographical interest—are being solicited by Miss Eunice E. Winters and Miss A. M. Bowers. Please communicate with them at 4305 Rugby Road, Baltimore 10, Md.

THOMAS W. SALMON MEMORIAL LECTURES.—Professor René Dubos, a microbiologist and experimental pathologist who has been associated with the faculty of the Rockefeller Foundation since 1927, will de-

liver the annual Thomas W. Salmon Lectures at the New York Academy of Medicine, December 3, 1962 at 4:30 and 8:30 p.m.

His topic will be "Mind—The Mirror of Society." Topic of the afternoon lecture "Insanity as Depicted by Artists of Different Civilizations"; of the evening lecture "The Adaptive Potentialities of Man."

The Salmon Lectures have been given annually since 1932 and are designed as permanent contributions to the field of medicine and are later published in book form.

BOOK REVIEWS

DRUG ADDICTION—CRIME OR DISEASE ?
(Bloomington : Indiana University Press,
1961, pp. 173. \$2.95.)

The sub-title of this book is "Interim and Final Reports of the Joint Committee of the American Bar Association and the American Medical Association on Narcotic Drugs."

The back cover of this booklet states : "The alarming increase in drug addiction since World War II has made the narcotic problem one of the most pressing in the United States today." A few facts on this "alarming increase" appear appropriate : There was a continuing decrease in the number of addicts in the United States between World War I when the military service rejection rate for addiction was one in 1,500 and World War II when the rate was one in 10,000. During the World War II period the control of commerce and the importation of narcotic drugs into the United States reduced the number of addicts in the United States to a minimum. The number of white addicts has not increased significantly since World War II. Of the 100,000,000 white persons 18 years of age and older in the United States, less than 12,000 have been known to be addicted at any time during the past five years. After World War II there was a significant increase in addiction among the Negro, Puerto Rican and Mexican population groups in some of the largest cities. About 33,000 are known to have been addicted at some time during the past five years. The total number of known addicts in the United States today (45,000) is less than it was prior to World War II.

The introduction tells the reader that he can choose between two opposing schools of thought on how to deal with drug addiction—one school regards addiction as an activity properly subject to police control and the other regards addiction as a disease. A clearer view might be obtained with an objective perspective that would differentiate views on the control of the production and distribution of narcotic drugs—an international and domestic regulatory problem—from views on the treatment of the narcotic drug addict—a medical and rehabilitation problem. These two views are compatible and do not require the adherents to attack each other and dissipate energy that could be used in a constructive manner.

A facsimile of the original cover of the "Interim Report of the Joint Committee of the American Bar Association and the American

Medical Association on Narcotic Drugs" is reproduced and indicates that it was "Confidential—Not for Distribution." This is surprising because a copy sent to me in 1958 had no such label and copies were distributed freely at a meeting in 1958. Since a facsimile of the cover of the "Comments on the Interim Report by the Advisory Committee to the Federal Bureau of Narcotics" is on the opposite page, it appears that the objective is to show that there was a breach of faith committed by the Bureau of Narcotics.

The brief "Interim Report" of the Joint Committee is included and has a lengthy Appendix A which is a collection of information containing many partial and complete quotations. Some are used to support the recommendation for the establishment of an experimental clinic which would dispense drugs to addicts if the staff did not succeed in taking and keeping the addict off drugs. This appears to be a unique approach for alerting behavior—rewarding failure. Pavlov missed this.

Appendix B of the "Interim Report" reviews the practices of countries in Western Europe and the United Kingdom that never have had a drug addiction problem similar to that in the United States. The conclusion was reached that the experience there has been different from our own. The Council on Mental Health of the American Medical Association stated in its report in 1957 that consideration of addiction in other countries provided little useful information because of the many differing factors. The second conclusion in Appendix B was that international controls on the production and export of narcotic drugs are unlikely to be a major factor in solving the United States problem. This is puzzling in view of the results obtained by control of commerce in World War II. It will be a blow to the many knowledgeable people who have worked successfully to reduce the number of countries producing and exporting opium. The creation of an addict requires both an unstable person and available narcotic drugs. There has been considerably more success in decreasing the amount of available drugs than in decreasing the supply of unstable people.

A few pages at the end of the booklet present the Final Report of the Joint Committee with its five recommendations for medical and legal research.

The Joint Committee gave little attention to the role of the medical profession in relation to

addiction because the Council on Mental Health of the American Medical Association covered this in its 1957 report. The summary and recommendations of the Council Report are included at the end of the booklet. The full report was in the *Journal of the American Association*, Vol. 165, Nov. 30, Dec. 7, and Dec. 14, 1957. More information useful to a physician is in that brief report than in the reviewed booklet whose main body is two lengthy appendices.

It is hoped that this booklet will not be followed by one with an equally quizzical and alluring title "Dope Peddling, Crime or Disease?" as a disguise for the "Comments on the Interim Report by the Advisory Committee to the Federal Bureau of Narcotics."

JAMES V. LOWRY, M.D.,
Bethesda, Md.

NARCOTICS AND THE LAW: A Critique of the American Experiment in Narcotic Drug Control. By *William Butler Eldridge*. (New York: New York University Press for American Bar Foundation, 1962. \$5.00.)

Any one interested in the subject should read this book, not for another "plan" or ready-made solutions but for critical analysis of the problems (plural) involved in narcotic drug addiction. Mr. Eldridge gives judgments as well as data and is open to both argument and further research, but his contribution is one of objective analysis rather than emotional debate.

The background chapters give a sweeping view of the history of the subject from antiquity to the present, with the changing attitudes: the British forcing the opium trade on China; the literary romanticizing of the "milk of Paradise"; the spread of medical addiction as the "army disease" in the United States during the Civil War; the promotion of addiction by the patent medicine business with well advertised narcotic cures for all diseases, including addiction; then medical and public concern bringing attempts at control, with the Harrison Act of 1914 designed to buttress State laws and marking what Mr. Eldridge summarizes as "an effort which set out to control the non-medical use of narcotics and evolved into the prohibition of non-medical uses and the control of medical uses."

After examining some of the currently publicized beliefs regarding addiction, Mr. Eldridge describes the efforts of the American Medical Association and the American Bar Association to substitute a research approach for subjective opinion and to study the actual

effectiveness of present narcotics policies in the United States. The heart of the book is "An Empirical Evaluation of the American System" based on a study of the Federal Government's narcotics policies and of the 4 states with most of the narcotic drug addicts (New York, California, Illinois and Michigan); 3 states (New Jersey, Ohio, and Missouri) where increased penalties had been claimed to be effective in reducing the narcotics problem; and the District of Columbia, chosen because of its administration by the national government. The American Bar Foundation conducted the project, and Mr. Eldridge was the project director. Aside from the specific results of the project, it is noteworthy as part of the American Bar Foundation's program to relate law more adequately to social facts through multidisciplinary research.

The evaluation is frankly preliminary. Its most emphatic conclusion is that we need much more, and more reliable, information as a basis for policy-making. Mr. Eldridge does, however, question certain provisions of the present state or federal laws, e.g., legislative restrictions on a physician's choice of treatment in good faith and in the course of his professional practice; the punishment, in some states, of addiction, per se, as a crime (which has since been held unconstitutional by the U. S. Supreme Court); requiring addicts to register; prohibitions that prevent the use of parole and probation, especially parole, in narcotics offenses as they are used in other criminal offenses. He also comments directly on various proposals for narcotics control—from clinics to life-time confinement—and in doing so of course he becomes controversial.

The most concrete recommendation, made in the interest of "accumulating definitive information," is to set up a national agency which with similar state agencies would seek to "obtain information on all salient aspects of addiction and traffic" and "to assure complete reporting from all agencies concerned with the problem." The recommendation stresses that the agencies "not be wedded to the agency responsible for enforcement"; yet the data suggested are all to be obtained from enforcement agencies. These data, however, are suggested as minima; there is room for other methods of obtaining information on the health aspects of narcotics control through health agencies. Perhaps those most familiar with the problems of obtaining such information, such as those who have already made a start in California, New Jersey and New York, can best design the methods of accomplishing this objective.

Each group concerned with narcotics probably will agree with the conclusion: "What is needed basically is a recognition that the whole narcotics problem cannot be lumped together and given to legislators, enforcement agencies, hospitals, or doctors. There must be a realignment of responsibility and a genuine spirit of cooperation in areas which overlap in interest." This, of course, is easier said than done, since the addict is one person even though he be both sick and a law violator. Mr. Eldridge tries to distinguish the areas of 1) enforcement of laws against illicit traffic, 2) treatment of addiction, and 3) overlapping interests. Who then should judge whether the addict who buys narcotics solely for his own use, and, by definition, has lost the power of self-control over his own use, is to be punished as a purchaser, involuntarily hospitalized for treatment, or left to the professional judgment of his physician? Mr. Eldridge's suggested dichotomy of law enforcement and treatment of addiction does not answer such questions. The live issues seem most likely to be in the area of overlapping interests. But with the help of such efforts as that of the American Bar Foundation perhaps the time is ripe to move from thesis and antithesis to at least a further attempt at synthesis.

EARLE V. SIMRELL,
Washington, D. C.

THE VIRGIN'S CHILDREN. By William Madsen.
(Austin: University of Texas Press, 1961,
pp. xv + 248. \$4.50.)

This book presents an anthropologist's very attractive and informative account of life in a modern village populated by descendants of the Aztecs. The village of San Francisco Tecoposa consists of 800 Indians who still speak the Aztec language of Nahuatl pretty much as it was spoken at the time of the descent of the Spaniards upon the Valley of Mexico.

In addition to its value as a description of a non-literate culture, the present volume throws much light on the mechanisms of culture, specifically of acculturation, so that the conclusions which can be drawn from a study of this kind may have very real practical value in facilitating cultural change in other cultures. Pagan gods were very easily replaced for these Aztecs by Christian ones because the latter demanded no great change in the role played by their traditional gods. Nevertheless, there has been a considerable change in their conception of the mother goddesses, and the change has been considerably for the better.

The book is excellently illustrated, and some

of the most interesting illustrations are by a ten-year-old Tecoposa boy. A most valuable book.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

MINDS THAT CAME BACK. By Walter Alvarez, M.D. (Philadelphia, New York: J. B. Lippincott, 1961, pp. 384, incl. annotated bibliography and index. \$5.95.)

Dr. Alvarez, former professor of medicine at the University of Minnesota, for many years consultant in internal medicine at the Mayo Clinic, has been known to thousands of readers across the continent through his syndicated medical column in eighty-odd newspapers. Indeed, the off-hand conversational style of his column is reflected in the present book, the writing of which, he says, of all his books has given him the most pleasure.

Here he has recorded the histories of more than 60 persons suffering from various forms of mental disorder, many of whom have later given most instructive accounts of their pathological history—persons such as Clifford Beers, or have incorporated their experiences in their literary works, notably Dostoevsky, van Gogh, Strindberg, de Maupassant.

It was Clifford Beers' *A Mind That Found Itself* (1908) which Alvarez read shortly after it was published, that set him to collecting books of a similar nature, abstracts of which are included in the present volume. He eventually extended his enquiry to include some eccentric characters that would not be classed among the strictly psychotic—alcoholics, epileptics, drug addicts, blind and deaf persons, and those otherwise crippled, also hoboes, prostitutes, sex perverts (now euphemistically referred to as sex deviates).

A particularly interesting feature of this book is the annotated bibliography containing some 400 classified titles (all drawn from the author's own library) representing the field he has covered.

Here will be found *The Story of Mary MacLane by Herself*, *Le Horla* of de Maupassant, Nietzsche's *My Sister and I*, Thigpen and Cleckley's *The Three Faces of Eve*, the cases of Nijinsky, Cowper, George Fox, Charles Lamb, Hazlitt, Strindberg, Mary Astor, Jean Cocteau, De Quincey, Baudelaire, Baron Corvo, Lord Alfred Douglas, André Gide, etc., etc. . . . A few patients who have undergone psychoanalysis tell their stories, e.g., Lucy Freeman, "who says she was always mixed-up about sex and other things, tells of five years of psychoanalysis, and her marriage, which soon went

sour. It is not clear how much good her analysis did her."

The author introduces his book with "A Brief Description of the Several Types of Mental Aberrations," which shows the risk one takes who tries to make a satisfactory psychiatric diagnosis. "Most of us presumably normal persons are mixtures of sanity and insanity." He refers to Earl Bond's *One Mind Common to All* (1958). "His thesis is that if we were to set up a scale of sanity, running from one to ten units, with a 'crazy' man at the bottom and, let us say, Benjamin Franklin at the top, most of us would rate around five."

C. B. F.

HANDBOOK OF PHYSIOLOGY. 3 Volumes. Edited by John Field, and H. W. Magoun. (Baltimore: Williams & Wilkins, respectively 1959, 1960, 1960, pp. 779, 660, 572. \$22.00, \$20.00, \$20.00.)

Scientific writing can be divided into three classes. First there are the reports of original observation and thought presented in the scientific periodicals and as monographs. The second class is comprised of review articles in which an expert in a field summarizes and attempts to place in proper perspective the papers in his own field which have appeared since a previous review was written. The third class of scientific writing is the textbook in which the author surveys the whole body of knowledge of a subject and presents it in a systematic organized form. In planning to write a textbook it is necessary to consider two variables. These are the delineation of the subject and, secondly, the size of the volume to be produced. In theory these two variables can be completely independent, yet usually they are closely related. The result is that most textbooks represent a compromise between the necessity to limit the size of the volume and an adequate presentation of the material.

During the 19th century the great German "handbuchs" were the most complete and authoritative textbooks of medical knowledge. The concept behind these volumes was to present in detail the whole body of knowledge with little or no regard to the size of the volumes. In the mid-nineteenth century this was not an unreasonable task, but with the tremendous growth and the unprecedented expansion of the medical literature in the 20th century, the need has become more urgent and the task more impossible. In 1953 the American Physiological Society undertook to publish a *Handbook of Physiology*, that would be comprehensive and detailed, yet critical and giving proper

emphasis to the classical, well established knowledge as well as to add the newer developments. The society appointed Professor John Fields at the University of California to be Editor-in-Chief with Professor H. W. Magoun as Editor of the section of neurophysiology, which has now appeared. This consists of three large quarto volumes totaling almost 2000 pages. Each of the 81 chapters has been written by a recognized authority in the field. Inevitably the material is dominated by the recent advances in neurophysiology that have been made possible by the introduction of modern electronic techniques. These newer methods have brought about a revolution in neurological thought. They have made possible the stimulation and recording from deep structures within the nervous system of almost intact animals. In many cases the neurophysiologists have been able to demonstrate interconnections before the anatomists describe them. It has also permitted study of the various functions performed by the cytologically different portions of a single nucleus. In spite of this, the classical work of such authors as Sherrington and Cajal is not neglected but serves as a landmark to which more recent findings can be related, and placed in the proper perspective.

The first volume, after an excellent historical review, deals with the physiology of the single neurone and discusses the electrical activity of the brain as a whole. Also in this volume sensory mechanisms and vision are discussed. The second volume is devoted to the motor system and the central regulatory mechanisms. The final volume deals with higher brain functions such as learning, behaviour, consciousness, perceptions, etc. The latter half of the volume is devoted to metabolism, haemodynamics, cerebrospinal fluid and the blood brain barrier.

The quality of individual chapters varies, but the average is high. Where controversy exists the author naturally has expressed his own views, but on the whole the evidence is fairly presented. A few of the chapters fall below the general standard of the volumes, even so they are of high quality. The indexing is well done and adequate. The placing of the figures to the center fold of the volume and the captions to the lateral margins of the page rather than centering them is rather distracting, and detracts from the symmetry of the page.

These volumes are rapidly becoming a standard reference text for neurophysiology. They have achieved the objectives of the American Physiological Society in that they are comprehensive, correct in detail, and authoritative. They provide the serious student an

adequate background for further study, or the practitioner with a review and summary of modern developments and thought. The size of the volumes would make it a major task to read them in entirety, but enhances their value as a reference work. It is inevitable that they will soon be out of date for in a rapidly advancing field of knowledge new discoveries will be added; yet the editorial policy has been to give an integrated picture of present knowledge, and this will provide a solid foundation for understanding future developments. These volumes should be readily available to all workers in the neurological sciences.

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PSYCHOANALYSIS AND RELIGION. By Gregory Zilboorg, M.D. (New York: Farrar, Straus and Cudahy, 1962, pp. 243. \$4.50.)

The late Gregory Zilboorg here comes to grips with the widely-held conviction that psychoanalytic doctrine is incompatible with religious faith. His verdict is that this conviction is wrong, and that one can at the same time be a devoted practitioner of religion and a true believer in psychoanalysis. Zilboorg was something of an authority on religion. Born of Jewish parents, he abandoned the faith of his fathers when he came to the U. S. A. in 1919. He then became a Quaker, but stopped going to Friends' meetings in 1939. Thereafter he married an Episcopalian and in 1954 became a Roman Catholic.

Why is psychoanalysis supposed to be hostile to religion? One reason is that Freud was anti-religious himself. Another is the feeling on the part of some religious people that psychoanalytic sessions compete with confession. A third factor is that standard analytic doctrine is supposed to hold that religious faith is a delusion (or at best a neurosis) and that religious ritual is a "compulsion." Another reason is the analyst's unwillingness to judge virtue and vice, good and evil, moral and immoral. Religion must make such judgments—can religious practices survive without condemning sin and, therefore, without acknowledging the existence of sin? The analyst is non-judgmental.

Zilboorg feels that none of these factors is serious enough to destroy the potential rapport between psychoanalysis and religion. Thus, he clearly differentiates a religious confession from an analytic interview in that unconscious guilt is poured out to the analyst but conscious guilt to the priest. If the penitent does not feel glad when doing his penance, then his guilt feeling has unconscious roots, and this,

Zilboorg suggests, makes it "a psychopathologic problem—a case for the analyst not the priest."

The analyst's reluctance to make moral judgments does not worry Zilboorg—it is, he thinks—simply a case of each shoemaker sticking to his own last. Psychiatrists should not be moral philosophers and clergymen should not be psychiatrists, so there is no conflict here—each operates in a different and non-conflicting orbit. Some religious people think that psychoanalysis has too strong a sexual tincture. Here too, Zilboorg sees a rapprochement. By now many religious experts have decided that sex is here to stay and accept its role in human anxiety, unhappiness and guilt. Furthermore, Zilboorg explains that what Freud meant by the "genital" phase, was not sexual maturity in a biologic sense, but rather that "sensual infantile egocentric drives have become adult and altruistic love for other people."

Obviously some of Freud's concepts are clearly unacceptable to religious people. Here Zilboorg retorts that you are free to reject that aspect of Freud's philosophy without losing faith in psychoanalysis. In this phase of his work, Freud—who was otherwise, Zilboorg agrees, something of a genius—was on the wrong track. Freud's anti-religious feeling was personal and basically neurotic and his disciples should not be influenced by it, argues Zilboorg. The author believes that as a 3-year-old, Freud had a kind of "primal love" attitude towards his Moravian (and Catholic) nurse and never quite solved the Oedipus situation there. Zilboorg suggests that Freud was neurotically ambivalent in his attitude towards religion. His fiancée, later his wife, was a practicing and orthodox Jew; Freud was not: thus provoking some anxiety. Freud asserted that Moses was really an Egyptian. It thus seems as if Freud had to reject Judaism and then all religion because of some inner need in himself.

Some religious people have an uneasy feeling that if psychoanalysis prospers, religious faith decays. Actually, Zilboorg says, psychoanalysis as a scientific doctrine no more threatens religion than the heliocentric theory of Newton's physics damaged religious faith in his day. ("Man's faith" comments Zilboorg, "is destroyed more by wars than by scientific discoveries.") Far from hurting religion, psychoanalysis has actually contributed to the greater understanding of religion. (Zilboorg's reasoning here is that the more we know about human beings, the more firmly religious truths are established.)

Zilboorg yields to no one in his admiration of science. But he points out that, for all his

vaunted scientism, Freud actually relied a good deal on myths, sagas and fantasies, and he never seemed to understand that there certainly *can* be knowledge outside the frontiers of science, that a scientific knowledge of the mechanics of nature would tell us nothing about its purpose of first cause. (The only discipline that has a right to study the first cause is theology, suggests Zilboorg.)

Edited by Zilboorg's widow, this text consists of eleven essays, the earliest printed in 1939 when Zilboorg was abandoning Quakerism; the latest written in 1958 after his conversion to Catholicism. It is too bad that no index was provided, because this book is full of epigrammatic wisdom to which the reader will want to refer frequently. There is much here to disagree with, but it is all presented with fluency, clarity, and shining sincerity.

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PSYCHOTHERAPY IN THE SOVIET UNION. Translated and edited by *Ralph B. Winn*. (New York: Philosophical Library, 1961.)

This book consists of 35 papers read at the conference on psychotherapy held in Moscow in 1956. They are divided into six main groups: Theoretical Problems of Psychotherapy, Psychotherapy of Neuroses, Psychotherapy of Psychoses, Treatment of Alcoholism and Smoking, Psychotherapy in Somatic Ailments and General Problems.

As in most collections, the papers are of uneven quality. The lead paper by V. N. Miasischev on theoretical questions of psychotherapy is by far the most informative. If one deleted the ritual obeisance to Pavlov and the ritual attack on Freud (neither one too prominent or convincing), we would end up with a good paper on the general aspects of psychotherapy as it is practiced by most psychiatrists the world over. If the translations are complete (which I doubt) one is impressed by the sketchy and superficial quality of the case reports. Alcoholism continues to receive a good deal of attention because it continues to be as serious a problem in the Soviet Union as it is in the Western world. The reviewer was pleasantly surprised at the inclusion of several papers on the psychotherapy of the psychoses in a country which has looked on these conditions for so many years from the strictly physiological point of view.

This book can be recommended as a good introduction for those interested in catching the flavor of Soviet psychotherapy, vintage '56, at the height of the post-Stalin thaw. It will

not substitute for the complete and unabridged translations of the current Soviet psychiatric literature.

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LEGAL AND CRIMINAL PSYCHOLOGY. Edited by *Hans Toch*. (New York: Holt, Rinehart & Winston, 1961.)

This interesting and provocative symposium on law, crime and correction raises, and does not always answer, some useful questions. Mainly the work of academic and practicing psychologists, it subjects the social effectiveness of jurisprudence and justice to the observational and analytical yardsticks of psychology and, not surprisingly, finds the legal system wanting in many particulars. The flaws thus exposed are shortcomings that perennially occasion concern among advocates of social equity; they are a reflection of the unhappy contrast between sublime aims and human fallibility. As in other departments of endeavor, the imperfections of man loom all too clearly under a microscope of cold reason.

Among the indictments presented by the psychologists are these: that legislators do not make laws but merely transcribe the dictates of public pressures; that law enforcement is a selective process in which expediency and whim are principal determinants; that court procedures under the adversary system are influenced by the relative acumen of opposing counsel, by the chance trend of available testimony and by the capriciousness of juries; that judges are swayed by personal predilections and idiosyncrasies, and by unconscious prejudice; that variety in jurisdictions, in laws and in their application give justice a widely fluctuating inequity.

The authors suggest means by which some of these failings might be countered or remedied and, in some of the more intransigent areas, sensibly suggest that further effort should be exerted to attain plainly needed ameliorations and safeguards. This segment of the book is balanced with chapters by three lawyers objectively explaining the structure and mechanisms of the law in criminal and civil cases. There are also two papers by sociologists, two by correctional authorities, and one by a psychiatrist.

Although the symposium on the whole reflects the remarkable cross-pollination that has occurred in recent years between the law and psychiatry, the one psychiatric contributor, Thomas S. Szasz, who is Professor of Psychiatry at the State University of New York in

Syracuse, presents a highly critical and skeptical view of the role of psychiatry in the courts. He takes a long excursion into logistic and legalistic thinking and becomes thoroughly entangled. Challenging the forensic concept of legal irresponsibility, Dr. Szasz contends that there is no scientific justification for setting up mental illness as a category comparable with physical pathology. He dismisses the term mental illness as a metaphorical expression referring to deviations in social behavior. "The oracular pronouncements of eminent psychiatrists," he charges, "have taken the place of publicly verifiable facts." Thus, he argues, the change in court practice from the McNaghten Rule to the New Hampshire and Durham rules is "a move away from the Rule of Law toward a Rule of Man." Finding forensic psychiatry in "an apparently insoluble dilemma," Dr. Szasz would treat psychiatric testimony as only one among several types of expert testimony, with social scientists or other departments participating. He proposes that all accused persons be treated as if they were fully responsible for their actions, and that they be either fully acquitted or sentenced to jail. He would have only two types of institutions—jails and hospitals—and would eliminate involuntary hospitalization, basing the penal disposition of cases on psychiatric, sociological, ethical and other considerations. His objective is "a more consistent, candid and forthright separation of self-defined illness with self-responsibly undertaken treatment on the one hand, and other-defined 'illness' or criminality and legally imposed 'treatment' or confinement on the other hand."

It is unfortunate that instead of giving a clear-cut representation as a clinician, one gathers the impression that Dr. Szasz is a nihilist as far as mental illness is concerned. For instance, he would apparently hold fully responsible a general paretic who committed an antisocial act while in the height of delusional grandiosity. It is a rather unique view, and represents the type of clinician who tries to outdo the legal authorities, while at the same time it clouds the ideal function of a psychiatrist, which is to interpret and evaluate the mental mechanism of the accused. This is a disservice to forensic psychiatry and amateurish in its legal conception.

One deduces that this book is mainly a product of a consortium of social scientists at Michigan State University, where Hans Toch, its editor, and several of the contributors are members of the faculty. Their lively interest in forward-looking ideas in the development of forensic practice and in criminology and cor-

rection augurs well for a growing confluence of academic thinking and public administration. Two of the contributors—Robert H. Scott, Associate Director of Corrections in Michigan, and Alfred C. Schnur, former Associate Warden at Minnesota State Prison—exemplify in particular a relatively new element in the practical application of therapeutic principles to the multifarious problems of correction.

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THE SENILE BRAIN. A Clinical Study. By R. S. Allison, M.D. (London: Edward Arnold; Toronto: Macmillan; Baltimore: William & Wilkins, 1962, pp. 288. \$10.00.)

This book contains a neurologist's detailed analysis of 198 patients seen and followed in his service in two Belfast general hospitals.

The word "senile" in the title is misleading as this is not a study in geriatrics. In fact only 11 of his cases were over 70 when first seen, and 25% of his patients were suffering from space-occupying intracranial lesions—brain tumors and chronic subdural haematomata. On the other hand a diagnosis of presenile dementia was made in 38 patients, which shows the value of the growing trend to provide psychiatric beds in general hospitals.

Of particular interest are the tests for disorientation and for speech and language disorders, fully described and illustrated in this book.

In discussing the development of amnesia the author points out its similarity in progression to that, seen in reverse, in recovery from traumatic and anoxic states.

This volume is a valuable review of the types of neurological and psychiatric problems seen in general hospitals.

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RORSCHACH'S TEST, I. BASIC PROCESSES. Third Edition, fully revised. By Samuel J. Beck, Anne G. Beck, Eugene E. Levitt, and Herman B. Molish. (New York and London: Grune & Stratton, 1961, pp. 237. \$6.00.)

The Rorschach test has been in use for over 40 years. Originally employed exclusively by psychiatrists it has expanded both as a clinical test and as a research instrument in the study of personality, in psychodynamics, and in the field of clinical psychology.

A number of testers by now quite numerous vary greatly in their qualifications. A number of them blithely diagnose schizophrenia on the basis of the test, though they have never

seen a schizophrenic. Some psychiatrists actually employ the Rorschach testers to make psychiatric diagnoses for them.

For all the criticisms of the test it still remains, however imperfect, the most alluring of test procedures. It covers a wide range of personality variables and offers always the temptation of developing a scientific instrument of the personality as it functions in numerous intellectual and emotional capacities.

The senior author, Samuel J. Beck, has more than anyone else, as far as I know, subjected the responses of the test to the strict discipline of technique and of quantitative procedures. Testing out assumptions will still require many years of research by a large number of investigators. Beck is in the forefront of this group.

The book is replete with numerous tables. The chapter particularly on the movement response has been expanded and revised. Beck has kept this as closely as possible to Rorschach's original technique, and also to his clues in testing out a number of the original interpretations. Especially valuable are the tables of associations to the various locations on the cards and the differentiations of good and poor form perceptions.

DAVID M. LEVY, M.D.,
New York, N. Y.

THE MYTH OF MENTAL ILLNESS : FOUNDATIONS OF A THEORY OF PERSONAL CONDUCT. By Thomas S. Szasz. (New York : Hoeber-Harper, 1961, pp. 337. \$7.50.)

This is the quintessence of Professor Szasz's book : perhaps everybody might be himself—in his terms ; play his genuine role according to the rules (biological, social, religious, or moral) of the game. Then everybody would behave in a responsible and committed manner. However, ever so many people prefer to be (or to appear) helpless and to be helped by others. Thus they assume and/or impersonate roles. "In taking a role, then, the main task to be mastered is to put on a good performance." Transferring these premises, Professor Szasz comes to assuming that psychiatry is used "as the notion of witchcraft was used for the same purpose from the early Middle Ages until well past the Renaissance. Today we seek and achieve the denial of social, moral and personal controversies by hastily retreating into the medical game." A witch would be considered a mental patient nowadays. The professor underlines "the significance of social oppression as a determinant of the phenomena called witchcraft, hysteria, and mental illness." He uses hysteria as his example, making the best

of the hysterical inclination to and proficiency at cheating, using the role of disability and sickness. There are several side glances at mental disease in which Professor Szasz appears particularly to gauge the patient's tendency to play the game of life in a way which is not honest but does protect him.

Professor Szasz is entirely dissatisfied with psychiatry and/or psychopathology. He deplores the lack of values or rather insight into values of various kinds which are implied in human life including the life of hysterical and mentally sick people. He makes the rather sobering remark that doctors need patients, implying that without the efforts of the psychiatrists there would not be so many mental patients. He stresses that organic patients are essentially the business of the neurologists.

This book is the work of a doubtless brilliant mind. It is entertaining and interesting reading. However, it is not made evident why the "mental diseases" ought to be thrown into one pot with "hysteria." It appears to this reviewer that a goodly number of points have been known for quite a while. It damages this book that the author with a few terms of his own pretends to change psychiatry revolutionarily and fundamentally. It is regretted that he is overdoing his pronouncements. The attitude that one knows better than anybody else is not equal to the assumption of leadership in one of the "sciences of human behavior." Probably this must be so in view of the role Professor Szasz assigned to himself.

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CLINICAL JUDGMENT : A STUDY OF CLINICAL ERRORS. By Frederick C. Thorne, M.D., Ph.D. (Brandon : Journal of Clinical Psychology, 1961, pp. 165.)

The author of this small but meaty volume is qualified by education and professional training as a practitioner and polemicist in both psychiatry and clinical psychology. He is founder and editor of the *Journal of Clinical Psychology*, and much of the material in the didactic introductory chapters is drawn from his own editorials and from papers of contributors to his journal. His philosophical posture is explicitly one of empiric, pragmatic eclecticism and he exhorts his psychological and psychiatric brethren alike to recognize that their special fields can pass from undisciplined art to orderly clinical science only as medicine generally has, by proper and persistent attention to the requirements of objective observation, the rules of evidence, and the canons of logical analysis.

Approximately the first half of the book is devoted to the nature of clinical judgment, the relation of clinical judgment to diagnosis, and the particular defects of the clinician as a clinical instrument. There are ample, footnoted references to experimental studies into factors which relate to accuracy of clinical appraisal. The ubiquity and potency of personal biases and ego-involvement as sources of error in clinical appraisal are sternly delineated. These chapters provide both hygienic and heuristic reading for the psychology trainee and psychiatric resident alike.

The fact and nature of significant errors in clinical judgments of personality are documented by the presentation of 78 cases. Each case appears in a uniform format which provides brief identifying information about the "culpable" clinician, a succinct summary of the clinical case data, and a moderately detailed "operational analysis of clinical judgment error." These materials were provided by 77 clinical psychologists, the *total* number of cooperative respondents who answered a questionnaire mailed directly to 1000 clinical psychologists who subscribe to the *Journal of Clinical Psychology*. Both sexes were represented over an age range from 21-71+ years; 80% of the respondents held the Ph.D., but only 28% were diplomates of the American Board of Examiners in Professional Psychology. The years of clinical experience reported ranged from 1-30, with 40% of the respondents having at least 10 years of experience. The author remarks on the paucity of response to his invitation to professional confession "as indicative of widespread defensive attitudes on the part of clinical psychologists in admitting errors in their work." It would be instructive to know what response would be received to a similar invitation to clinical psychiatrists. The author also observes, "It is significant that the reporting of errors in the field of projective methods is conspicuous by its absence. Although projective testing represents an important area of psychological functioning and time invention, these methods were not cited, as causes of error."

This book provides exemplification of two human frailties from which the sophisticated expert on human frailty is not exempt: "To err is human"—To forget our errors more human still. Both preceptor and student can read this work with profit.

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DER WAHNSINN : GESCHICHTE DER ABENDLANDISCHEN PSYCHOPATHOLOGIE. A HISTORY OF OCCIDENTAL PSYCHOPATHOLOGY. By Werner Leibbrand, and Annemarie Wetley. (Munich : Karl Albert Freiburg, 1961, pp. 698. Collection "Orbis," No. 11/12.)

This thick compilation of 700 pages contains the findings of many years of intensive research in the field of the history of psychiatry at the Munich University Institute for the History of Medicine. The authors have restricted their subject to psychopathological theories, thus providing a link between contemporary philosophical concepts and properly psychiatric developments. Six historical periods are considered : Greco-Roman Antiquity—Middle Age—Renaissance—Baroque—Enlightenment—Modern Times.

It is practically impossible to review a book of such richness. Here are a few samples chosen at random : The Pythagorians utilized a method of training which included diet, music, periods of silence and graduated exercises of memorization ; it amounted to a psychotherapeutic method (p. 20). The Stoics used another training method with written and verbal exercises of concentration and meditation, a method which centuries later was taken over by the Jesuits (p. 104). In the year 400 B.C. Antiphon erected a house near the market place in Corinth, with an inscription saying that he treated depressed people. He sought for the cause of their melancholia and eliminated it by persuasion (p. 21). In the XIIIth century the nun Hildegard of Bingen elaborated psychopathological theories reminiscent of the Freudian libido theory (p. 163). Thomas Aquinas' teaching of unity of body and soul is in concordance with modern psychosomatic theories (p. 171). The Renaissance physician, Fracastor, famous for the Latin poem in which he gave a new disease, syphilis, its name, was also the author of psychopathological theories and of a description of mental diseases (pp. 186-189). Paracelsus' intricate teaching is made intelligible if one considers that he gave two subsequent and very different theories of mental illness (pp. 206-224). The famous mystic and visionary Swedenborg was the author of a theory of brain anatomo-physiology (pp. 285-287). Stahl taught the noxious effects of the repression of emotions, which resulted in certain physical diseases (p. 321). Hoffbauer's concept of "assimilation" is somewhat akin to modern concepts of understanding mental patients and of existential analysis (pp. 385-386). Francis Willis, entrusted with treatment of the psychotic King George III,

developed a method of "moral management" which did not seem convincing to Parliament, but aroused great interest throughout Europe and became the starting point for a more humane treatment of mental patients (p. 341). J. C. Santluis, a German mental hospital director in the mid-19th century, elaborated a psychiatric system based on drives, among which the term "libido" appeared (p. 463). Leibbrand found out that current biographic notes on Pinel are webs of legend and errors (he counted no less than 21 flagrant errors in the chapter about Pinel in a well-known book!). In 1950 a student of Leibbrand's, W. Lechler, published a biographic study under his direction, the results of which are sometimes surprising (pp. 657-658). About Esquirol Leibbrand found in German archives the report by a certain W. von Mandt, who, on behalf of the German ministry, visited Esquirol in 1833. Esquirol showed him his collection of 400 skulls and 200 plaster casts of idiots and psychotics. He also had a cast of the recently unearthed skull of Héloïse. Leibbrand tried to trace this collection and found that after Esquirol's death the skulls and casts had been used as shooting targets by the hospital personnel and thus destroyed (p. 423). The authors' detailed account of Freud's sources (pp. 587-596) may be of interest to psychoanalysts, etc., etc.

Leibbrand and Wettley's book is not always easy reading, but it contains a prodigious wealth of material, the greatest part of it hitherto unknown or little known. From now on, nobody working in the field of the history of psychiatry will be able to disregard this book.

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INVESTIGATION OF CARBON DIOXIDE THERAPY.

By G. K. Yacorzynski, A. J. Atkinson, J. Cohen, and F. G. Shuffelbarger. (Springfield, Ill.: C. C. Thomas, 1962, pp. 313.)

Evaluating effects of treatment in any disturbance of mental function is difficult; it is especially difficult in patients diagnosed as having neurosis. It is not surprising, therefore, that where Meduna recommended the treatment with carbon dioxide of various disturbances of mental function, his publication was followed by those of other authors whose reports covered the routine range of improvement from zero to almost one hundred percent. As the authors of the book discussed here point out, few of the previous studies involved the use of both control subjects and blind scoring. Even those that did were unsatisfactory as

regards follow-up studies. Accordingly, the present work is a welcome change.

The study was based on 39 patients with neurotic complaints that included those of irritable colon. Approximately 50% were given 60 carbon-dioxide treatments and the rest received similar treatments with nitrous oxide. A vast number of psychologic variables were tested before and at intervals after the treatments had been terminated.

Two things are evident in this study: 1. That psychiatric evaluations often indicated more improvement than did psychologic studies, and 2. That both experimental and control patients improved approximately equally, the improvement perhaps occurring somewhat more rapidly in the patients who received carbon dioxide than in those who were given nitrous oxide.

This report is one of the best available studies of the effects of treatment in neurosis.

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SERVICES FOR CHILDREN WITH EMOTIONAL DISTURBANCES. Prepared by *Committee on Child Health of the American Public Health Association, Inc.* (American Public Health Association, Inc., 1961, pp. 120. \$2.50.)

This is a valuable guide for public health personnel including community leaders dealing with emotionally disturbed children. An attempt is made to identify what is known and to locate gaps in knowledge. Central issues are presented, new trends explored, and all in all the material compactly presented provides a reasonable summation of present knowledge. The many excellent contributors hope this knowledge will promote comprehensive physical, mental and social health and improve community care of children with special problems. It should.

The range of topics is impressive ranging from concepts and facts about emotionally disturbed children, causes, prevention, case finding and treatment to special services and facilities, professional personnel, organization of community resources and trends in research. There are valuable appendices about official and voluntary agencies, vocabulary of mental health terms, and a selected bibliography. It is clearly and readably written and avoids confusing terminology. While not primarily designed for psychiatrists, it is well worth their while if they deal with the community. All disciplines can find much of value in this paper bound book.

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FATIGUE, REST AND EXERCISE^{1, 2}TREVOR OWEN, M.B., F.R.C.P. (LOND.), F.R.C.P.(C.)³

If a single living muscle is excised and stimulated by an electric current it can be made to contract. If the stimulation is repeated often enough the contractions will become more and more feeble and finally cease. The muscle is said to be fatigued. The energy for contraction was supplied by the conversion of glycogen into lactic acid. The complete fatigue is due to the fact that the hydrogen-ion concentration has risen to such a point that no more glycogen can be converted into lactic acid. During rest, with an adequate supply of oxygen, sugar, and bases to replenish the alkali reserve, the lactic acid is reconverted into glycogen and recovery is soon complete. No analogous production of complete muscle fatigue ever occurs in the human being and yet the symptom of fatigue is often considered and treated in the light of this simple experiment. An additional factor is often postulated, namely, that the blood supply is inadequate in that it may contain some toxic agent, as in hyperthyroidism or be deficient qualitatively, as in pernicious anaemia. Often that is true.

If we stimulate the excised muscle by way of its nerve in the same fashion, we find that the same phenomenon occurs, namely, that after a few stimulations the muscle will stop contracting. However, if we at once change the stimulation from the nerve to the muscle, the muscle will again contract and continues until entirely fatigued. This shows that the nerve fibres fatigued before the muscle. If, in a third instance, the stimulus for muscle contraction is done by the mind through the nerve path to the muscle, we find that the subject

of the experiment is able to keep up voluntary contraction of the muscle to a point at which he describes complete fatigue. He means that he is unable to make a voluntary effort of *will* sufficiently strong to contract the muscle. If, at this moment, the nerve supplying that muscle is then stimulated, the muscle will contract until the nerve fibres are exhausted and immediately further stimulation of the muscle will show response to stimulation to a further point. Thus, the onset of fatigue is earliest in the mind, next in the nerve fibres themselves and finally in the muscle. We see, therefore, that the contraction of a muscle, *i.e.*, a certain form of energy production or behaviour is limited by the ability of the subject to bear the cerebral distress of making an effort of *will* against increasingly strong, disagreeable painful sensory impulses. This is normal functional fatigue. Obviously, the quantity and quality of the blood to the parts must be adequate. A poorer quality of the blood, either from a deficient supply of normal materials as in heart failure or in deficiencies such as myxoedema, or because of the addition of toxic materials, as in active tuberculosis, will greatly reduce the time required to produce the syndrome called fatigue. This is organic fatigue.

Normal functional fatigue can properly be designated as the sensation and general experience and behaviour of the athlete after physical endeavour. This might be called "athletic fatigue" and can apply to ordinary fatigue or to fatigue in average persons who have only relative perfection of the integration of function, the perfection of integration of function coming only with athletic training. The state of the perfection depends on the life led by the individual.

In extreme athletic fatigue, one sees the fatigue of the mind, nerve paths, muscles, *etc.* It is impossible to say what part fails first, because the whole organization breaks down together and the point at which it breaks down is called the maximum produc-

¹ This is the successful Myers Memorial Essay for 1941.

² This paper was printed originally in *The Canadian Medical Association Journal*, 47 : 41, 1942. Permission has been granted for its reprinting here.

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tion of energy of which that individual is capable. It is the purpose of an athlete's training to build up the efficiency of the various systems individually and also co-operatively. This perfects integration of chemical and physical functions and implies the proper inhibition of unimportant activities. Final physical exhaustion is reached when the cerebral distress from peripheral stimuli becomes so great that the individual is unable to initiate any voluntary effort further. Athletic training, therefore, enables, first, the best possible integration of all physical and chemical processes in the various systems so as to delay the onset of extreme discomfort, and, finally, the training of the mind to stand increasing discomfort up to the final point which we call the "capacity" of that individual. This is not to say that weakening of the mind is the limiting factor in the full psychomotor power, but that that particular individual has reached the limit of his mental strength at that degree of disagreeable, sensory bombardment due to the increasing hydrogen-ion concentration and his diminishing supplies of raw materials, sugar and various salts. Thus, the mind is the first threshold of fatigue. As the pace and the time increase, the sensory barrage reaches and finally breaks the *will* of that person in order to save him from a disintegration of function and structural damage.

ORGANIC FATIGUE

The fatigue in organic disease is presumably caused by toxæmia. In addition to the diseased tissues involved in energy production, toxic agents alter cellular chemical processes, producing inadequacy in the signalling mechanism from faulty hormones or disordered function of the autonomic nervous system. The fatigue is not necessarily present until the tissues are being used and is thus in some respects comparable to that felt by an athlete approaching the limit of his capacity. The discomfort will be slightly different, however, since particular toxins will often have a particular selective effect. For instance, it may have its maximum effect on muscle fibre or on nerve tissue or on the liver or on the brain cells, though all tissues will be affected. The fatigue of organic disease is banished to more

or less an extent by inactivity and increases with activity and is felt later in the day. Organic fatigue is an efferent difficulty, that is to say, there is resistance to motor stimuli, probably at the neuromuscular junctions. At the same time, there is increased afferent facility with heightened irritability of sensory stimuli. This decreasing resistance to sensory stimuli brings about cerebral distress earlier and has a biological object in the preservation of the individual. The break in the continuity of the production of energy begins peripherally, but the continual perception of uncomfortable stimuli finally fatigues the mind and the patient becomes irritable, depressed, and shows a diminution in his powers of concentration. Inactivity, *i.e.*, rest, by reducing the number of peripheral stimuli will allow these effects to pass off. But the constant repetition will finally induce what we call "habit" and this occurs on the afferent as well as the efferent side. Once a habit has been induced, the imprint remains for ever, growing fainter with the passage of time. Any future fatigue, whether organic or functional, may reveal those imprints in that habit pathway or pattern. Thus the previous habit of pain from the region of previous inflammation or other disease may appear in an episode of functional fatigue. The pain of duodenal ulcer from muscular spasm there may reappear when that individual is functionally fatigued from psychological causes, a habit of reflex spasm having been established when actual ulceration was present on former occasions. Now, without the ulceration, but merely because of the facility of afferent and efferent stimuli in that area, the fatigue phenomena are increased during normal usage of that part. Constant or repeated perception of afferent impulses increases the acuteness and skill of recognition of those impulses and the shades of quality changes in those afferent impulses increase enormously with the practice of that appreciation.

FUNCTIONAL FATIGUE

Functional fatigue begins centrally and extends peripherally. It is made worse by inactivity (rest) and is therefore most severely felt in the early part of the day and wears off as effort is made by deliberate

action or necessity. The effort of *will* to initiate an effort of a physical or mental kind is great. The great inhibiting influence is a lack of desire or wish to initiate an effort.

In 1935 Norman Johnson in *Minnesota Medicine* (Vol. 18, page 531) published an excellent article on "Non-organic Causes of Fatigue" from which I freely quote. He quotes Capt. Hadfield of the British Army, "In the production of energy we are motivated by two forces. First by *impulse* (or desire) which is the stronger, and secondly by the *will*. Man gets his superhuman strength when his instinct or impulse violently urges some policy and his *will* gives complete and unqualified approval." When this is the case, no fatigue sets in, except the athletic exhaustion above referred to. Postponement of the cessation of energy production can be brought about by adding the nerve stimulation in order to augment the *will* power by some sort of suggestion. This is frequently used, such as the exhortations of the cox in the rowing crew, the cheering of a crowd for encouragement or by using some rhythmical, musical stimulation as in the dance and the army band. Conversely, earlier exhaustion, or a diminishing of the ability to stand the cerebral distress and exercise or "complete and utter fatigue is brought about when impulse or instinct strongly dictates a policy and the *will* violently disapproves." This is conflict. "In emergencies, one's reasoning powers move too slowly, and most of us revert to instinctive reactions of fear, anger, hate, jealousy, pride, greed, worry, anxiety, disappointment, self-consciousness, self-pity, despair, etc." These have tremendous powers for inhibiting our automatic machinery and bringing on fatigue symptoms. The subtle influences of fear in all its forms and grades are not easily analyzed. "The important point to remember is that our machinery is geared directly to our emotions." As mentioned above, superhuman energy is seen in action when our emotions coincide with our will. Where these are not in strict harmony, functional fatigue sets in to thwart the object of the weaker one. For example, "a person has functional fatigue when he forces himself to perform some task which he heartily dislikes, where-

as five times the energy is expended on some pleasant task which results in only transitory fatigue" (Hadfield) of a different kind. "Some persons have been educated to put an emphasis on results, rather than giving their best effort to the performance and to let the result happen. If the best is done, automatically you will produce the best result of which you are capable. Work should be done without getting mentally in a hurry."

"Functional fatigue is also caused by the refusal to accept an adverse fact. Most basic of all is probably the fallacy of the conviction of our individual entity being the centre around which all the rest of the world revolves. This produces 90 per cent of the disagreeable emotional upheavals of an individual and of mankind. The most enjoyable experiences have come at a time when one's attention was riveted on some consuming interest, on some goal for which you strive, or in fact anything except your relative position in life." The symptoms of functional fatigue are due to the inco-ordination between the various systems and the imbalance between the sympathetic and the parasympathetic portions of the autonomic nervous system. When slight, the actual biochemical changes are not measurable by our methods and yet some of the biochemical changes with emotion are known. When functional fatigue is chronic and more severe, biochemical changes are demonstrable; changes in the basal metabolic rate, changes in the sugar metabolism, changes in the blood pressure, changes in the pulse rate, and also changes in the heat control mechanism. Thus in severe functional disturbances, some of these changes in metabolic processes may be severe and be mistaken for the changes often seen in organic disease. Even in mild psychoneurotics, earnest attempts are made by medication or surgical therapy to rectify these changes in function without success. This lack of success is inevitable because these changes are the effect and not the causes of the disturbance. Frequently, the measures taken to alter these effects merely cause further upsets in function, together with the functional upset that comes from chronic disappointment. Most commonly, the disorganization which brings on func-

tional fatigue and due to disorders of the autonomic machinery is an acquired state and can easily be mistaken for organic fatigue. Psychological causes such as boredom, disuse, lack of discipline, and chronic fear connected with the social state, with the economic state and with physical health are common. The neurasthenic is a personality who has a poorly functioning nervous system from birth and these are the people who always have suffered from an uncomfortable functioning of their bodily machinery brought out more easily and more violently under conditions of stress and strain, that is, when they attempt automatically to adjust to some change in the environment which is too great for them. These are the patients who are always complaining; that is to say, they always have symptoms.

An important group of patients in whom functional fatigue is of particular interest are those who have inherent defects of vegetative function. These are the migraine personalities with its various equivalents such as asthma, eczema, angioneurotic oedema, urticaria, mucous colitis, cyclic vomiting of children, and certain types of dysmenorrhoea. Functional fatigue, manifesting itself always through disturbed vegetative function, will of necessity bring these defects out in high relief and the appreciation and treatment of the additional psychogenic factors are fundamental.

REST AND EXERCISE

Rest from athletic fatigue means the total inactivity of the body and mind for a period which has definite limits. In organic fatigue, namely, that due to toxic states due to infection, degeneration, or new growth, or to poisoning from endogenous sources, rest is also that of an inactivity of the part and of the whole patient until the source of the intoxicating material is removed and the results of the intoxication are repaired and the metabolism of the cells is restored to normal. As soon as the toxins are removed or prevented from forming, the convalescent state begins. This rehabilitation period, called the convalescent state, is a period of change and requires a nice adjustment between rest and increasing exercise of the part and the whole of the patient. The fact

that the whole individual is taking part in the convalescence is often overlooked. Graduated use of the various faculties and physical properties of that individual have to be used in greater frequency and in increasing difficulty. This is analogous to the early part of an athlete's training. During the convalescent stage from infection or other toxæmias, many of the psychoneurotic states originate in healthy people. The previous toxic state has resulted in a disintegration of function of the various systems and of the cells in each system and, following the removal of that toxæmia, *this* functional fatigue remains. The restoration of this liability to functional fatigue may well be met with the ordinary natural tendency of the individual to recover spontaneously. But, if the period of previous toxæmia has been prolonged, even those who have strong autonomic nervous systems and constitutional organization, as it is called, may yet require careful coaching in the re-education or exercise process to avoid the habitual functional fatigue symptoms which are necessarily and normally present at the beginning of the convalescent stage. It can thus be seen, too, that in long continued, chronic, organic disease and in suitable personalities, functional fatigue symptoms overtake and overshadow finally the organic symptoms. Frequently, however, the distinction between the organic symptoms and the functional fatigue symptoms is not clearly distinguished by those who come in contact with the patient. Therefore, there is a possibility that the whole complex clinical picture becomes a mixture of functional, that is to say secondary psychoneurotic, symptoms combined with the organic symptoms and the latter may fade in reality to the vanishing point. The onus having started with the organic disease, symptoms may still be thought to be treatable on the basis of the original organic lesion, but specific treatment directed towards the organic lesion will not, of course, have any effect on the secondary and now more urgent and possibly overwhelming symptoms of functional nervous disturbance.

The word "rest" is used rightly when applied to the fatigue of organic disease. Inactivity, however, is not restful for the organization that is suffering from function-

al fatigue, and becomes but an opportunity for deterioration. In functional nervous disorders, rest is only obtained by using all parts, including the mind and nervous system of the organism in the way that they were supposed to be used, beginning with a small amount and increasing the difficulty and the duration until a normal level of usage is arrived at. Together with this, frequent changes in the kind of energy production is the only way of producing a restful effect. Anxiety or fear and boredom (monotony) are the greatest producers of functional fatigue. The only method possible to remove fear and boredom is, first of all, that the patient and the doctor should be aware of their presence, to accept their positive reality and be willing to try to erase them. This sets in motion psychological and physiological constructive forces which are inherent in each individual. They are, of course, strongest in those who are endowed with a strong intellect and intelligence. The physiological benefits from clear understanding are enormous. Rest, therefore, consists of an alternation of activity with shortening periods of inactivity. Exercise is the initiation of different kinds of effort. This practice in *willing*, in the presence of understanding, does increase the strength of *will power*. The rapidity of recovery, therefore, depends mostly upon the previous habits of discipline in that patient.

Exercise consists in the repeated trials of the efficiency of the integration of that individual at the moment, the test requiring a more perfect integration than obtains at that time and, therefore, resulting in slight sensations of fatigue. This process of working the organization just beyond its level of efficient integration at the moment and giving rise to a suggestion of increased effort, whether mental or physical, is what we call education. By the repetition of this procedure in health, a greater production of energy will be found possible before inefficient integration takes place, with the important proviso that the experiments should not be too far apart. This is best illustrated by the athletic illustration, namely, that in running a race of say, ten miles, the first effort should be half a mile, the second three-quarters of a mile, the third one mile, the fourth one and a half miles,

etc., but the intervals between these extensions of time and distance will have to be carefully selected, for if the interval is too great the previous education involved in increasing the distance will have worn away. The word education has usually been applied to intellectual activities alone but the same principle holds good. Exercise also consists in the practice of varying co-ordination, as it is just as important to have perfect inhibitions as it is to have perfect stimulation.

The previous discipline of the patient in every sphere is seen frequently in organic disease. The more disciplined the patient has been previously, the longer will be delayed and the less severe and elaborate may be the symptoms of the onset of organic fatigue. In this way more severe toxæmias, especially if started slowly, will be borne by the more disciplined patient. In them toxæmia may reach a high point before the patient will acknowledge fatigue. On the contrary, the undisciplined, emotionally uneducated patient has symptoms of fatigue from a slight organic lesion. He has been educated in easy disorganization.

Many somatic discomforts and signs are expressed by the word "fatigue" and those of functional are no less important than those of organic origin. Of the functional variety there are those due to abnormalities of vegetative function from mildly pathological psychological states—the commonest of which are fear and dissatisfaction. My concern here is to re-emphasize the truth that organic dysfunction, functional vegetative dysfunction, and psychogenic dysfunction are all on the same physiological footing and must be dealt with by the physiological method. They all give rise to symptoms difficult of distinction. The simple psychological analysis of an ill individual is not *more* important than the organic analysis—the point is that it is not *less* important. Its omission is unscientific and represents one of the serious flaws in the practice of the art of medicine today, particularly by specialists. Literally, hundreds of years of good health are lost by not taking time to do this. The natural history of the patient; as he has been born, as he has been reared and fed, as he has been acted upon by people's opinions, as he has been affected

by religious, social and economic conditions, is equally important (neither more nor less) as the effect on him of pathogenic organisms or of degenerative changes in his tissue cells. Take nothing for granted. The absence of significant findings is quite as helpful as their presence and therefore our duty compels us to examine the private life and

thoughts of patients just as carefully as we should do a rectal examination. Medically, one is not more private than the other.

Not until the organic or non-organic nature of fatigue symptoms are appreciated can the appropriate measures of correct rest or exercise be applied with understanding and wisdom.

LOBOTOMY IN WESTERN PENNSYLVANIA : LOOKING BACKWARD OVER TEN YEARS¹

ROBERT L. VOSBURG, M.D.

Nearly a quarter century ago a frontal attack was launched quite literally against mental illness. Indeed, at one period in its history, prefrontal lobotomy or "psychosurgery" was hailed as a new era in psychiatric therapy.²

Enthusiasm for prefrontal lobotomy in Western Pennsylvania mirrored national practice, as between 1944 and 1957, 229 operations were performed by neurosurgeons for treatment of mental illness. In 1949, the operation reached peak frequency locally when 55 patients were treated.

This survey was made in order to find out what changes took place in this group of severely ill psychiatric patients. When preparations for the job of follow-up were being made, it became evident that local medical opinions about the effects of lobotomy were conflicting and that acrimonious debate characterized much of the literature regarding this procedure. Despite the scholarly monographs of Freeman and Watts(1) and other enthusiastic supporters of surgical treatment of mental illness, it was evident that diverse procedures of selection, operation and evaluation led to quite different overall results and sentiments.

Freeman, for example, reported that over 80% of 500 patients who were followed over 20 years were discharged or gainfully employed(6). Paul reported similar "favorable results" with 65% of his patients(7). The largest series was reported by Tooth and Newton who observed that 46% of 10,365

leucotomy patients in England and Wales had been discharged after 10 years and that at least 40% were much improved(20). On the other hand, while this survey was being carried out Barahal reported the 10-year results of 1095 lobotomized state hospitalized patients with a discharge rate of 21% (8). This figure corresponds to the discharge rate reported in this study and, even more significantly, to the discharge rates of a similar, untreated hospital population reported by Hastings in the same year(9), and to the generally negative, if always precise, findings of the Columbia Greystone project associates (2; but see 10).

The explanation of these differences has been the topic of research seminars(3-5), annual reviews of the literature by Freeman, and extended reviews by Kolb(11), Greenblatt(12), Tow(13), and Freeman (14).

Illustrative of the differences of opinion are the following excerpts: Greenblatt writes that all lobotomy reports are characterized by an "astonishing similarity of results," while Tow writes "what emerges most obviously from this review is the great variation in results and the clinical opinion as to their interpretation." He adds, "This is not surprising in view of the wide variation in material."

It also became evident in our early preparations that the old hospital charts often omitted what seemed like vital data, that valuable psychological test records had become misplaced, and that no strict, precise before and after measures would be available to us to settle any debates. In view of these limitations reliance was placed on two simple methods, a straightforward clinical interview of the patients who could be reached and a simple tabulation of the current treatment status of all patients.

Procedure. Two hundred and twenty-nine patients were selected who had been lobotomized from 1944 to 1957 (Graph 1). As it happened 104 patients were selected, treated and followed by the Western State

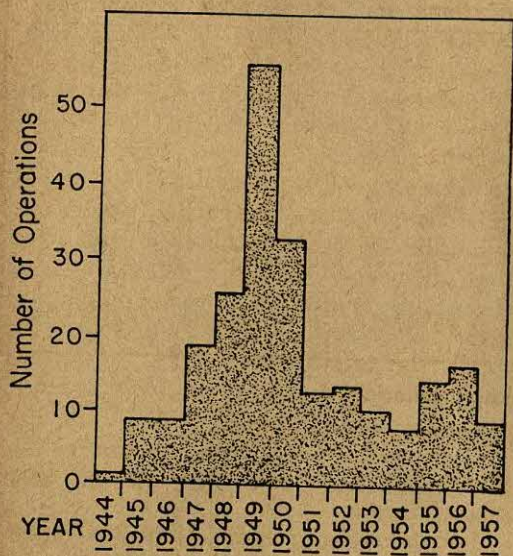
¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

This project was directed by Henry W. Brosin, M.D., Director of the Western Psychiatric Institute and Clinic. Statistics were compiled by Mrs. Edith Fleming of this staff. Yale D. Koskoff, M.D., not only performed most of the surgery but also was a helpful critic during each stage of this survey.

² "This volume inaugurates a new era in the treatment of mental disorders, a surgical era . . . (It) reveals how personality can be cut to measure, sounding a note of hope for those who are afflicted with insanity." From the book jacket of Freeman and Watts, *Psychosurgery*(1).

Graph 1

Number of Lobotomy Operations
Performed in Western Pennsylvania,
by Year, 1944-1957.



Psychiatric Institute,³ and 125 patients were selected, treated and followed by other hospitals in the Pittsburgh area. The hospital chart of each of the 229 cases was examined and a tabulation made of the ratings "improved," "easier to care for," or "unimproved" (or their equivalent terms). Discharge status was noted and tabulated.

Detailed case history data were collected from all patients who were eventually discharged from the W.P.I.C. portion (*i.e.*, 17 of 104) and all the lobotomized patients at a nearby state hospital (*i.e.*, 15 of 229). This selection was dictated by convenience and reason. The charting procedures at W.P.I.C., as well as the personnel who wrote the notes, were familiar: this lent a conviction to the comparison with present impressions that would have been totally lacking otherwise.

Controls. The results of the W.P.I.C. group (104) are controlled by the remainder (125) for the effects of selection and treatment at one institution.

To compare the outcome of lobotomized

persons with unlobotomized patients, over 700 charts were searched, using the criteria "lobotomy recommended but not carried out." Unfortunately, this search yielded only a handful of cases.

At the time of operation, 95% of the 229 patients were chronically hospitalized psychotics. Lobotomy was frequently characterized as "the last resort," although the operation was withheld from many because the expectation of success seemed so meager. This kind of population has been characterized by Whitehorn as "prolonged and unsatisfactorily responsive depressives and prolonged and unsatisfactorily responsive schizophrenics" (3).

All of the operations recorded were bilateral lobotomies performed under direct vision through trephine openings.

Results. 1. Overview: At the time of follow-up in 1958, 43 (19%) of the 229 patients had been discharged, 162 (71%) remained hospitalized and 24 (10%) had died. Ninety-four (58%) of those now in hospitals are considered "improved" or "easier to care for" (Chart 1).

The discharge rate and improvement ratings for the patients treated at the W.P.I.C. and the patients treated at other hospitals were similar on all counts.

The fractions of "improved" cases and "easier care" cases stabilized within 5 years so that the expectation of some symptomatic improvement from lobotomy could be held for 4 of each 10 patients (Graph 2).

The recovery ratings did not correspond closely with clinical diagnosis, sex of the patient, nor prognostications (when these could be traced). Other variables, such as length of hospitalization, mode of symptom onset, social class, education, and marital status, were not compared with the results. The patients ranging in age from 30 to 50 fared better than either younger or older patients. The significance of this is by no means clear; it is a fact that these groups were considered less desirable candidates for the procedure, and so those who did receive lobotomy may have been sicker on the whole than those patients in the middle group.

After 1957, 6 lobotomies are known to have been performed locally. Three patients were outpatients. One, markedly

³ The name was changed in 1949 to Western Psychiatric Institute and Clinic when a reorganization took place.

Chart 1

AGE, SEX OF THE PATIENT GROUPS BY PLACE OF LOBOTOMY OPERATION

	Number	Average Age at Operation	Results According to Charts		
			Improved	Easier Care	Unimproved
Lobotomy of W.P.I.C.					
1. Men	27	32.9	5	4	18
2. Women	77	35.7	15	22	40
3. Total	104	35.0	20	26	58
Lobotomy elsewhere in Western Pennsylvania					
1. Men	35	39.3	4	10	21
2. Women	69	45.1	15	19	56
3. Total	125*	43.1	19	29	77
Totals	N=229	39.1	39 [†] (17%)	55 (24%)	135 [‡] (59%)

*Age at surgery of 21 patients undetermined.

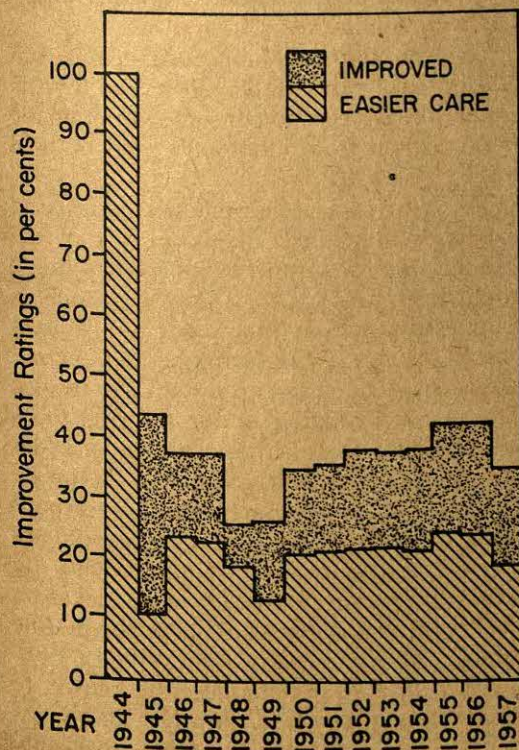
†Five men and nineteen women deceased by 1958.

phobic, achieved striking relief; two others, each with somatic complaints, were un-

changed or worse. The inpatients were unchanged.

Graph 2

Improvement Ratings Expressed as Per cent, by Year



Lobotomy has steadily diminished in frequency; this is due to the low expectation of real success, the unpredictability of results and the advent and availability of the tranquilizing drugs (Graphs 3, 4).

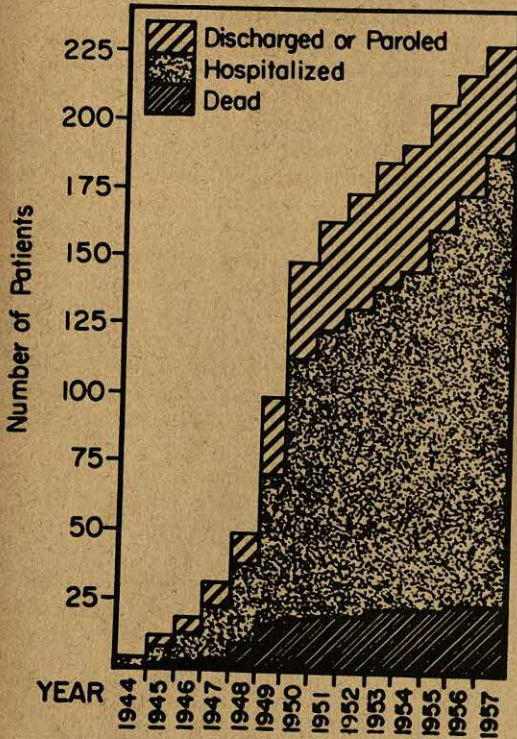
2. Clinical findings: Four of the 17 patients discharged from the W.P.I.C. group seem to feel happier, are able to work more consistently, and are certainly less destructive than they had been for many years. This is to say they are cured, according to clinical standards. The remaining 13 although discharged show a variety of symptoms ranging from overt psychosis and vegetative existence to persistence and even exacerbation of functional complaints and obsessional rumination.

Illustrative Case Histories.

1. Edward M. failed in his business at the age of 36 and developed a suicidal depression with paranoid preoccupations; these symptoms continued for 10 years. Thirteen years ago he received lobotomy. Now he is a pleasant submissive man who works steadily as a stock boy in a music store. He remarks that his tendency to worry is gone. He feels that his memory is excellent, but he no longer enjoys reading because "it's difficult to concentrate." He lives comfortably with his sister (he never married) "who has always been like a mother to me." He

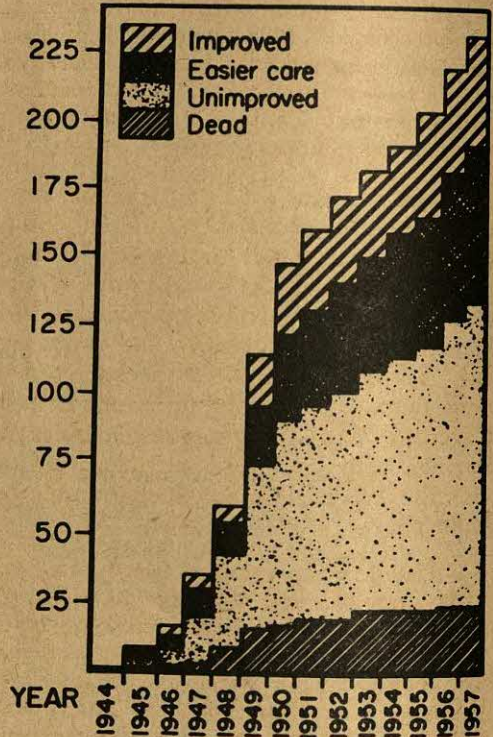
Graph 3

Living Place of Lobotomy
Patients, by Year



Graph 4

Hospital Chart Rating of
Status, by Year



tended to avoid and to deny or project unpleasant issues.

Comment: In some studies this kind of result is evidently common: Greenblatt, for example, characterizes the lobotomized personality as showing a reduction of drive, lessened self concern, greater social accessibility and some shallowness (12). As will be seen this generalization is not applicable to all.

2. Nan A., as a girl, had been timid and depressed. Although she married her childhood sweetheart they were childless and she fell into deep despair. Lobotomy was given at age 32 to relieve excruciating headaches and suicidal preoccupation. Following lobotomy 8 years ago she became outspoken and energetic. She began to ask for sexual relations with her husband. After 14 years of marriage, 3 years after lobotomy, she conceived and bore a son. Her husband professed to be pleased. Unfortunately he suffered two coronary occlusions, the first coinciding with her return from the hospital

and the second in their child's infancy. He died with the second attack. She became a diligent and loving mother, assisted in great measures by her sister and brother-in-law, a childless couple living nearby. Over the years the excruciating headaches have returned and at the time of follow-up she was noted to have an alarming hypertension (290/150 R.A.S.).

Comment: It is noteworthy this woman's headaches have returned and that she has developed essential hypertension. Apropos the family, Koskoff and Weniger had observed that oftentimes the recovery of one member has disastrous effects upon the other family members (15). While this dramatic example supports their observations, it was atypical. The patient's recovery, on the other hand, was abetted by the continuing support from her childless sister.

3. John D. had been a conscientious hard-working young man. Following an injury at work he was involved in a lawsuit for which he eventually recovered a small settlement. He became fearful that people were "out to get

him," and developed a paranoid panic. Following lobotomy 11 years ago the intense agitation ceased. He returned to his mother and has never shown any more interest in his wife. Nor has he worked consistently. He has been a constant clinic visitor. When interviewed he was preoccupied with somatic complaints, tangential in his talk, and became furious. He said, "I feel no better; I'm like the weather; if the day is nice, I'm tops . . . They made a goddamn fool out of me!"

Comment: This kind of psychotic, blow hot and cold personality suggests other stereotypes attributed to lobotomy. Many medical people, it was found in this survey, tend to think that lobotomy produces a sub-human who is "fat, sloppy and promiscuous." Looking back to other characterizations, this story probably starts with Phineas Gage, the hard working and reliable gang foreman who became a cursing drunkard after he survived a crowbar through his brain(1).

4. Paul J. was a quiet seclusive youngster. As he grew older he took up with a "gang," started to steal and to show interest in women, which disturbed his mother. He began to fear that some neighbor would molest his sister. He became openly psychotic and critical of his mother and family, and smashed some furniture. He was careless and incontinent when hospitalized and unable to cooperate with psychological testing. In 1946 lobotomy was done at age 29. He has not spoken since that time. He lives with his mother who insists on taking complete care of him. She feeds him and changes his clothes. He watches television. His mother remarked, "While he didn't do the way the doctors promised, he's manageable, and has no pain, and he's a good boy." He is uncommunicative except for grunts; he is incontinent of urine and feces.

Comment: This case illustrates how little relationship there may be between discharge and "recovery."

5. Maria C. was, and is, a constant source of psychiatric interest. She began therapy with a psychoanalyst, Dr. S., in 1944, but broke off. She was hospitalized at the Menninger Clinic for "incapacitatingly severe headache, nausea, insomnia, terrifying dreams, fear of dirt, and crawling things, feelings of hatred and hostility, and the inability to look at pictures or to read," diagnosed "schizophrenic" and referred to W.P.I.C.

She was admitted in 1946 and saw 6 therapists before her discharge in 1949. With each therapist, there was initial progress, relief of symptoms, then withdrawal from therapy with symptoms similar to the original breakdown.

During her hospitalization ICT, ECT, narcosynthesis, and CO₂ were administered. Lobotomy in 1949 was the last definitive procedure. Shortly postoperatively she was moved to a nearby state hospital from which she was discharged. She has been seen intermittently by psychiatrists since and followed the same emotional pattern as observed before. She has responded to all treatment as love affairs; initially she would be pleased, then become anxious, and finally become enraged and depressed. She was enamored of her physician at the time of the operation and sees the lobotomy as a loss, particularly of memory for music and dreams. Lobotomy has even taken on some of the aura of a sadistic attack ("I wouldn't let them do it to a dog").

The most noticeable change in her activities is the conversion to Jehovah's Witnesses from the Greek Catholic Church, a change observed in another case in this series as well.

The family does little to support her, but does provide food and shelter. They are openly antagonistic toward her.

Comment: This complex person has not been helped by lobotomy. But more important, it is possible to assess some of the effects of the operation relevant to psychotherapy. Her transference pattern seems to remain unchanged. The perseverance of compulsive behavior was also striking; she now uses 7 wash cloths to bathe, one for each part of her body, where previously 3 had sufficed. The change in religious affiliation could be interpreted as a consequence of a personality shift toward outgoing traits (on the basis that Protestant, evangelical sects are more "emotional" than Catholic traditional sects)(16, 17). This change might also be interpreted as seeking salvation from a hitherto unexhausted social resource. The second explanation implies less impoverishment of ego than the first. There was much in the history to suggest that this woman brought about surgery by masochistic manipulations; possibly her present depreciation of lobotomy indicates no more than depreciatory attitudes toward men. In any event, the striking clinical fact is the persistence of her suffering behavior unmitigated by psychosurgery.

6. (Permanently hospitalized.) Joe S. was a truculent boy and quarrelsome young man. He was unable to hold a job and gradually became involved in more fights and became unintelligible. He received lobotomy at age 27, 9 years ago. After the operation he seemed to be similar to his earlier self. He has remained a state hospital patient. There he functions well on a work gang, swearing and cursing continually but going largely unnoticed by his fellow workers. In the interview he was quiet and seemed frightened and showed meticulous mannerisms. He said, "The medical treatment was perfect . . . never had an operation. A pigeon was run over by a truck and had its head chopped off."

Comment: Joe S. appears to feel that he has been castrated, in the psychoanalytic meaning of the term, as did 6 other patients. The allusions to castration were less veiled in the hospitalized group than the non-hospitalized group. Similarly the manner of denial was more gross in the hospitalized group.

Seven of the patients interviewed made unmistakable allusions to the feeling that they had been damaged. This fear is, of course, widespread. Whether it is "fixed" by the actual event of lobotomy is worth consideration.

7. (Chronically hospitalized.) Lilly M. received a lobotomy at age 47, 9 years ago, a fact that was greeted with surprise by the ward personnel at follow-up. She is presently loud, oafish, and sexually promiscuous. She works in the laundry. She is noted for rapid shifts from religious preoccupation to hostile profanity. Generally she is disliked by the patients.

In the interview she commented that, "I think it was a wonderful operation. It got rid of the fear. It changed my entire attitude. I'm kinder, more lenient, and try to be good. My memory has improved. After the operation a voice said, 'You are forgiven.'"

Comment: The clinical picture of the lobotomy patient who remains hospitalized is highly variable. Many were less combative postoperatively but several could be controlled only with large doses of Thorazine. Lilly M. denies the impact of lobotomy and her opinion of herself corresponds not at all to the opinions held of her by others. The patient's remark, "You are forgiven," raises a familiar but moot issue, the

problem of how guilt is modified by various therapies and to what extent behavior after treatment represents propitiation of the physician.

Summary of Clinical Findings. The findings from this survey indicate that the changes following lobotomy include impaired memory, diminished adult sexual contacts, some increase in somatic symptoms and complaints, a change in attitude towards one's self, increased repression and suppression of reflective thought and increased extra-punitiveness. These people tend to withdraw more, yet to be more outspoken and critical than previously. In sum, they act as if they have been hurt.

The incidence of psychosomatic illness seemed striking. Progressive arthritis, ulcerative colitis, migraine and weight fluctuation were observed. Prior notions that the loss of frontal lobes might obviate psychosomatic illness proved false. It was impossible to obtain detailed histories of sexual behavior; it seemed that most of the patients had diminished sexual interest. Masturbatory activity was not remarkable, according to ward personnel.

In all of the patients the residual of their psychosis remained, as Freeman observed 20 years ago(1). For some it was a recurrent dream that required constant suppression, while others dealt with irrational thoughts by constant projection and denial. All in all these patients seem to worry less, to be more concrete, and to be less in pain than preoperatively.

DISCUSSION

Among reports on lobotomy "the great variation in results and the clinical opinion as to their interpretation" is attributable to differences in selection procedures (14, 18, 19), and to an over-estimation of the role of the frontal lobes in the behaviors called personality and mental illness.

Our data indicate that prefrontal lobotomy is regularly followed by a time of readjustment to the social system extending about a year. Typically compensatory constrictive and regressive defenses develop. Whether the induced brain syndrome comes to be recorded as "improvement" or not depends upon the niche available to the postoperative patient. Sustained recovery is

a reading on the equilibrium struck by the social environment and the patient. Without some modification of the external environment, old symptoms and old acclimations recur.

Because physicians in the 1930's and 1940's generally believed that the higher mental processes were localized within the frontal lobes, the potential consequences of lobotomy loomed disproportionately large. Therapy was conceived as either selective ablation of the bad parts or successive strengthening of the good parts. Surgeons sought to do the former, psychoanalysts the latter, and the division of opinion followed these lines. But it turned out that ablation of the frontal cortex did little to change the balance between good and bad within individuals. Psychological test measures, formerly regarded as accurate indices of brain damage and mental illness, were found to be inadequate to the task of definitive diagnosis and evaluation. This finding, once accepted, led to careful re-examination of old assumptions and increasing sophistication of research design, and to the development of new test batteries.

Prefrontal lobotomy constitutes two things, damage to the central nervous system and a dramatic event in a life history. Each has its own consequences and neither is necessarily closely linked with the other. The changes due to tissue destruction are subtle and difficult to measure. The changes due to significance are characteristic of all symbolically charged events. To many patients and their families, especially in the early years, lobotomy meant special recognition and special status. This was sometimes enough to reorganize the family. Other patients, we may gather, were so much needed by their families that minor deficiencies attributable to brain damage could be easily tolerated. Chronic state hospital patients, on the other hand, had been generally written off as liabilities by their families. Curiously, many physicians came to characterize lobotomy patients as "fat, sloppy and promiscuous." The explanation for this erroneous judgment must be sought in the fears of the observers and the behavior of a few patients, for it is not supported by general findings of obesity,

carelessness, or promiscuity. Similarly the feeling commonly expressed by lobotomy patients that they have been mutilated may be interpreted as a reconstruction of their life history according to a dramatic event, psychic rather than physical reality. All histories, as well as follow-up studies, must be interpreted within the climate of opinion of their times.

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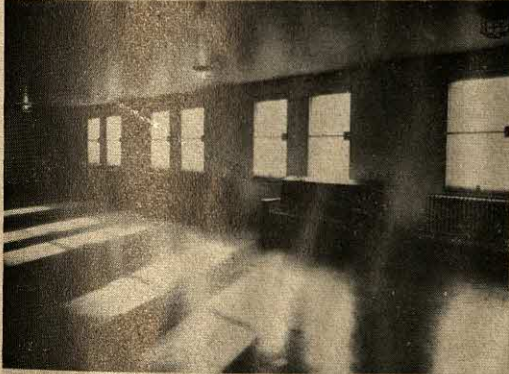
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Figure 1

BEFORE

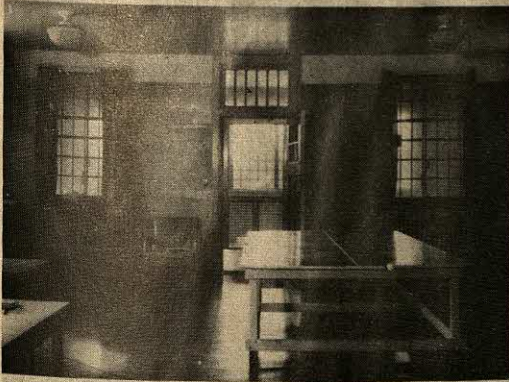


1A

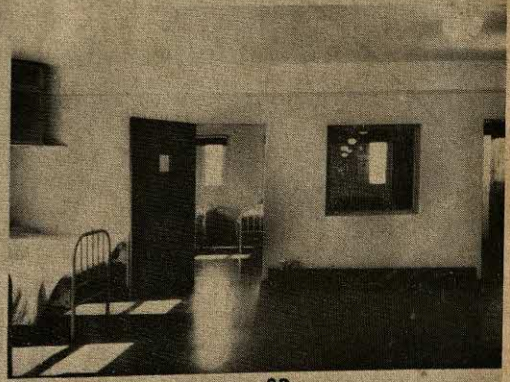
AFTER



1B



2A



2B

Figure 2

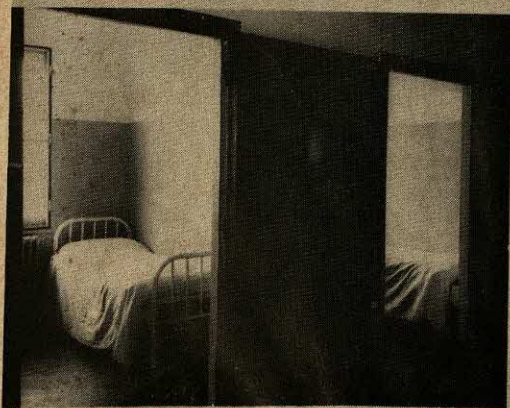
BEFORE



3A

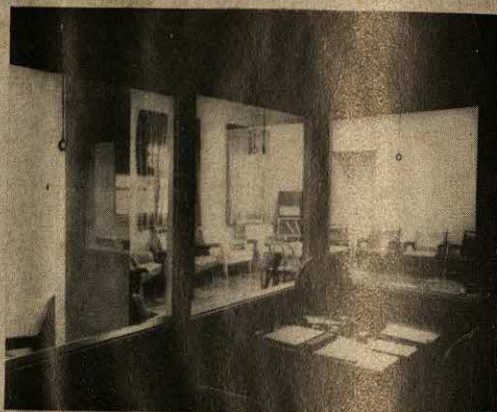


4A

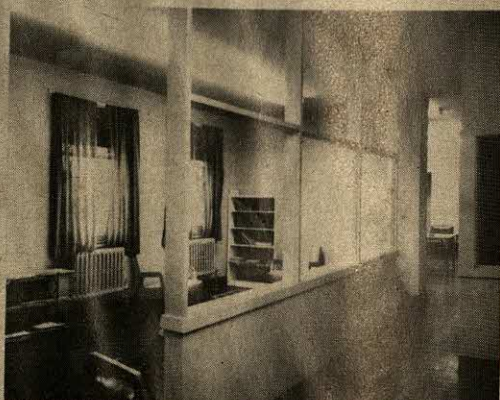


5A

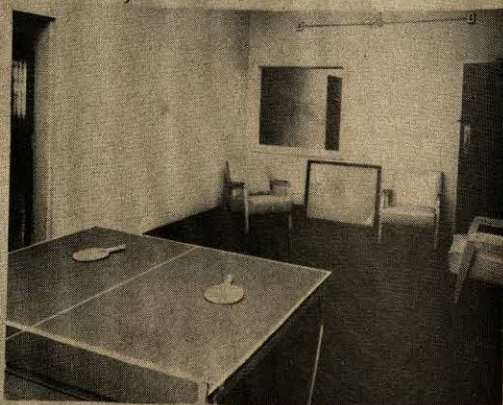
AFTER



3B



4B



5B

A NEW TYPE PSYCHIATRIC RESEARCH WARD

GEORGE SIMPSON, M.B., CH.B., AND NATHAN S. KLINE, M.D.¹

The weakest point in the entire edifice of psychiatric research is the very cornerstone upon which all the other components must rest—the systematic observation of the patient. Biochemical, physiological, psychological (in the limited sense) and even sociological activity can be measured, but we lack a satisfactory method of describing “overall” behavior in a quantifiable manner.

Interviews with patients suffer from the limitation that they are necessarily of relatively short duration and restrict the person being interviewed to a situation which may not reveal important aspects of behavior.

The use of attendants and nurses as raters usually produces ambiguous data since such service personnel are constantly interacting with the patient in the line of duty and since usually the patient either assists or impedes the performance of these duties, the rating itself cannot be entirely objective. In certain situations such reactions and opinions of a participant observer may be useful but there are other times when an objectivity is claimed for this type of observation which it does not actually possess.

Not only the observer but the usual physical setting produces problems. Attempts to record data in a hospital day room are difficult because of the large size of such rooms and the consequent number of patients. On the other hand, observation in an isolation room or in a small space with one or two other persons is not a “natural” environment for any long period. The monotony of the environment also interferes with obtaining valuable information since there is no way of determining if the patient would prefer to do something else since he does not have the opportunity to change his activities; nor can his reactions to the varying stimuli produced by such changes in activity be ascertained.

Devising a new type research ward is an unorthodox and expensive project. We were

fortunate in finding a sponsor² with the imagination to invest “risk” capital in underwriting the cost of such construction.

In designing the ward we tried to circumvent some of the obstructions mentioned above. Our aim was to provide a ward in which we could:

1. Record behavior without the observer interacting with the patient;

2. Carry out our observations without the patient knowing when he was and when he was not being observed;

3. Follow the activities of a patient for as long as we chose;

4. Provide the patient with a choice of differing environments without loss of continuous observation;

5. Obtain information from the patient's reactions in each of the settings he could select;

6. Permanently record (on tape, silent film, or sound film) selected segments of behavior for later study;

7. Use our personnel with maximum efficiency to facilitate the accurate and complete collection of urine, feces and other specimens upon which the physiological and biochemical studies depend.

The purpose of the research should determine not only the construction of the ward, the techniques of observation but also the type of personnel and the selection of the patients. The ward about to be described was designed for multidisciplinary studies on chronic schizophrenic patients. The principles of patient selection have been described elsewhere⁽¹⁾ but also included a group of periodic catatonics.

Figures 1 and 2 respectively show the old and the new physical set-up. Figure 1 is typical of most wards in mental hospitals.

A frequent requirement of any research involving physiological measurements is the obtaining of temperature, pulse, respiration and blood pressure under standardized “basal” conditions. Our own requirement was that this be done on a t.i.d. basis with the patients lying quietly in bed for half

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² The New York Foundation.

FIGURE 1

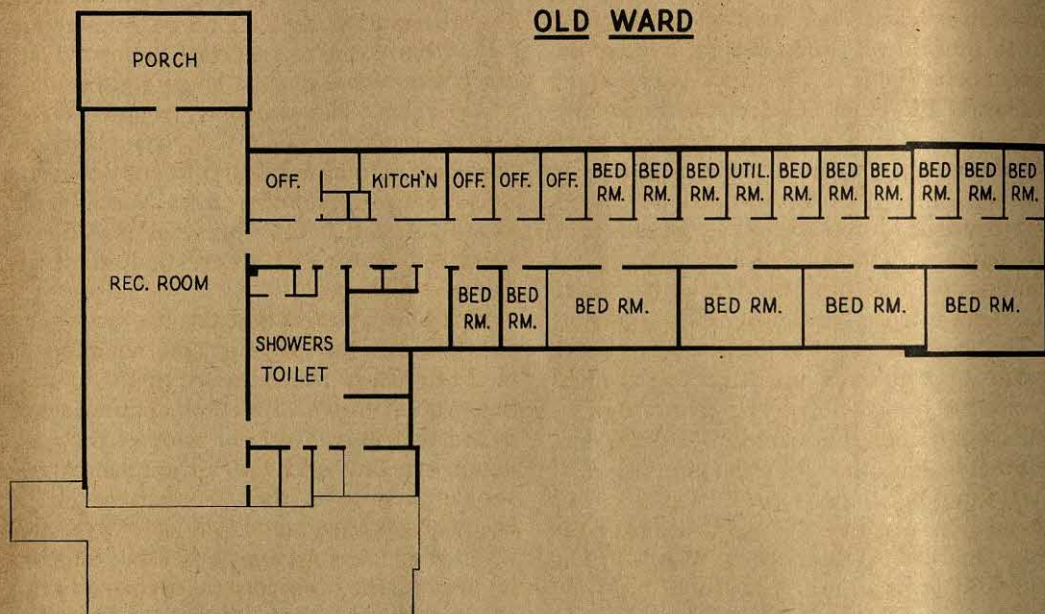
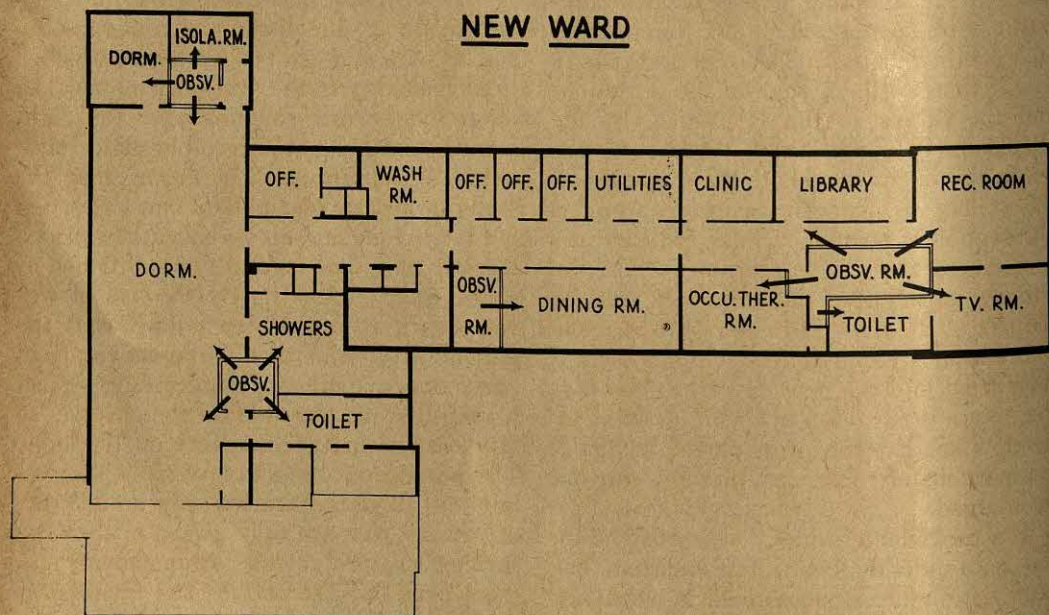
OLD WARD

FIGURE 2

NEW WARD

an hour in advance, but without sleeping. The way the ward was originally constructed it was virtually impossible to keep each of the patients under continuous observation since this would have required an extravagant number of ward personnel. The charting of medications, behavioral observations and other data further reduced the

number of persons available to follow the patients because of the location of the nurses' office where this was done.

In the reconstructed ward the day room has been converted to a dormitory which is separated by three semi-soundproof accordion partitions. This permits continuous observation of all the patients or, if desired, of a

smaller group only. In addition, the outside porch was closed off and an observation booth introduced, thus making two soundproof rooms housing 3 patients in one and 1 patient in the other. This makes it possible for even a patient who is in need of isolation because of an infectious condition or physical illness to be continued on the research ward. More especially, patients who are having metabolic studies carried out can be separated from the rest of the ward, and more intense basal observations taken.

The position of the observation booth makes it possible for one attendant at night to observe these two special rooms and, by pulling back all the soundproof partitions, to observe the other four sleeping areas. If the normal personnel ratio is available, two attendants are present; one in each of the areas marked "Observation Booth." The soundproof partitions can then be fully pulled out and three areas be under observation by each nurse or attendant. On rising in the morning it was formerly impossible to keep track of all the patients on a continuous basis. This was particularly true if some of them were in the dormitory and the others in the lavatories. In the "Rockland Research Ward" the observation booth also opens upon both the showers and the toilets so that the same continuous observation is possible. Under ordinary circumstances after their morning toilet, the patients move out of the dormitory area for the rest of the day. At breakfast they move into the next area and upon completing their meal into the new day area. The dining room is also set up with a one-way window so that the principle of having a non-participant observer present can be maintained.

The area which formerly was occupied by the semi-individual sleeping quarters has been thoroughly reconstructed in a manner that meets most of our research needs. There is now a large central observation station with one-way glass all around which contains the nurses office. Even the adjacent lavatory can be monitored, but the wall on this side of the observation station is closed and entrance from the observation room to the lavatory is through an interior door. This means that toilet privacy is not violated unless there is a specific re-

search demand. In addition to the lavatory the observation area monitors four rooms—the library, the recreational therapy room, the occupational therapy shop, and the television room. The two noisy rooms (recreational therapy and T.V.) have doors on them which may be closed to cut down the noise reaching the other areas. With even a minimum staff it then becomes possible to carry out reasonable observation of all patients at all times.

It is not expected that the one-way glass will deceive the patients and no effort is made to justify the existence of the central observation room. Research patients are aware that in one form or another they are under scrutiny and the advantage of the present system is that the patients have no way of knowing when they are and when they are not being observed. Similarly, because the observers are invisible to the patients they do not enter into the usual interactions.

All four rooms have been wired for sound and contain directional microphones installed with a two-way sound system which is controlled from the observation area. The microphones are contained in the light fixtures and are not detectable under ordinary circumstances. This means that the study of a particular patient can be carried out intensively and his verbalizations placed directly on a tape recorder or auditioned as they occur (or both). By the use of trip switches it is possible to follow what the patient says even though he moves from one room to another. The recording system is such that it is possible for the observer to also edit or make comments on the tape. The purpose of a research ward is observation and there must necessarily be invasion of privacy. We are fully aware of the "Big Brother" nature of the arrangement, but there exists no alternative. The invasion of the dermal limits of a person with a hypodermic needle injected into a blood vessel or into the spinal canal is done in order to obtain necessary information and not out of either morbid curiosity or an effort to exert "undue influence." Like most researchers, each member of our staff has a strong sense of his individuality, and our dislike of utilizing the "Big Brother" technique except out of necessity provides a real guar-

antee against its abuse.

The division of the daytime space into four rooms means that one can study the movements from one activity area to another, which is particularly useful as any change in place is up to the patient and can be correlated with other behavioral changes. The two-way sound system permits music or, if need be for research, "hallucinations" to be sent back to the patients.

The same difficulties we had experienced in the old ward with observation also held true for urine collection. At least 14 of our chronic regressed schizophrenic patients are on a continuous 24 hour urine collection regimen at any time. It is essential that collection be carefully carried out and that slip-ups be held to a minimum. This had usually been attempted by locking the door to the lavatory area; an attendant accompanied any patient who was a doubtful collector, insuring that he used his own container and did not discard it afterwards. Most of the patients, after a period of training, became good "collectors" and could be trusted to do this on their own. However, the difficult collectors at times did not even come to the toilet but found a quiet corner in which to urinate. The design of the new research ward makes such "accidents" less likely.

Another factor taken into consideration in the design of the ward was the prevalence of amebiasis in mental hospital patients (2). To this end, no patients are accepted on the research ward unless they have 6 negative stools for ameba, and even then they are treated for amebiasis for 6 days before they are brought to the research ward. The normal design of the lavatory area in most hospitals results in the showers being adjacent to the toilets with no intervening wall. The obvious advantage of this situation for the breeding of ameba led us to wall off these two areas from each other in the new research ward.

The plan outlined above is now completed and the patients have been trans-

ferred to the ward. It is of interest, though not unexpected, that the fears, criticism and dire predictions we ourselves (and others) had made turned out to be largely unfounded. Patients seem to pay little attention to the observation station and, if anything, were surprisingly indifferent.

SUMMARY

1. A new type research ward has been constructed at Rockland State Hospital.

2. The reasons why we felt it necessary to alter the existing ward are outlined, and the old and new plans shown.

3. Unique features of this new ward are described.

4. The above features are of significance to our researches at Rockland State Hospital, but the authors feel that the problems posed and the architectural solutions arrived at may be of value to other investigators since it permits:

- a) recording of patient's behavior without interaction with the observer;

- b) absence of knowledge of the patient as to when he is and when he is not being observed;

- c) observation for extended periods of time;

- d) patient selection of any of four different "environments" without loss of continuous observations by the observer;

- e) the recording of reactions in each of these environments;

- f) permanent recording (tape, silent film or sound film) of selected segments of behavior for later analysis;

- g) maximum utilization of available personnel which facilitates the accurate and complete collection of urine, feces and other specimens upon which physiological and biochemical studies depend.

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PSYCHIATRIC HISTORY IN PSYCHIATRIC EDUCATION: REPORT OF A SURVEY

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History is a perennially neglected subject in medical and psychiatric education. The earliest American survey of the teaching of the history of medicine was that of Cordell, published in 1904(4). The author examined conditions in 14 universities and found that only three were offering full courses of 14 to 16 lectures in medical history. Nevertheless, Cordell predicted optimistically: "The time is near at hand when the standing of universities will be judged by their attitude to this branch, and when it will be assigned a front rank in the curriculum"(8).

Thirty-three years later, in the most recent authoritative survey—that of Sigerist in 1937(8)—the author observed that Cordell's postulates had not been fulfilled. Sigerist's questionnaire study in the late 'thirties revealed that 46 of 77 (60%) Grade A medical schools in the United States offered regular courses in medical history, that they were required in 28, with examinations in 22(3). Fifty-four (70%) provided some kind of instruction in medical history. More recently, in 1951, the Committee on the Teaching of Medical History of the American Association of the History of Medicine stated(3):

... it is frequently affirmed that the study and the teaching of medical history is on the increase. . . . Yet though the quality of the work may be superior, and the special laborers more competent, it remains true that the over-all, the average medical student and medical practitioner, is less well informed in the history of his profession than was his fore-runner of a century ago.

In 1957, Ackerknecht, commenting on the 1937 Sigerist study of undergraduate education, observed "... since 1937 . . . the situation regarding medical history has remained more or less stationary, and per-

haps even improved somewhat"(5). These observations pertain to the teaching of the history of medicine. Psychiatric history has been, at least until recently, part of medical history.

Turning now to post-graduate education in psychiatry, we find no traditional place for the teaching of psychiatric history in training center curricula. The report of the 1952 Conference on Psychiatric Education (1) does not mention psychiatric history specifically but alludes to it in the chapter entitled "Ideals and Practices" by recommending for the psychiatric resident "Knowledge of the development of psychiatric concepts and practices as they have emerged through observation, experience, and investigative procedures"(1). The section on "Basic Psychiatry" recommends "... Knowledge of psychopathology, including phenomenology or descriptive psychiatry with its historical perspectives"(1). This apparent lack of definitive interest in psychiatric history is not surprising, however, because emphasis upon the history of a discipline follows rather than precedes the establishment of that discipline. The publication of Zilboorg's monumental *A History of Medical Psychology*(9) in 1941, therefore, may be regarded as one indication of the establishment and recognition of psychiatry as a discipline. Of course, the history of medicine and the history of psychiatry are inextricably intertwined (as Zilboorg indicated in his title). One cannot teach one without teaching the other—nor can one inquire into the history of psychiatry without inquiring into the history of medicine. The more psychiatry "comes of age," however, the more its own history—its evolution as a body of knowledge—will be inquired into and taught. As Schneck points out in his recent *A History of Psychiatry*: "Departments of psychiatry in medical schools have expanded greatly during the past two decades. Medical educators agree generally on the importance of historical perspective in all branches of study"(7).

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Undoubtedly, this process will continue. In order to see how it is going, we undertook, early in 1961, a questionnaire survey of attitudes and practices in the teaching of psychiatric history to residents in psychiatry.

Sampling. In order to obtain what we considered to be a "representative sample" of opinions from psychiatric training centers, we referred to the "Internship and Residency Number" of the *Journal of the American Medical Association* (6), and turned to the *Directory of Approved Residencies* listing 226 hospitals which have residency programs in psychiatry approved for 3 years of training. We decided not to try to survey all of the 226 hospitals listed (nor any 2-year programs), but to limit our sample to a convenient "round" number of 100, broken down as 90 U. S. residencies and 10 Canadian residencies. Addresses of 10 Canadian programs were selected, with one exception, from the April 2, 1960 issue of the *Canadian Medical Association Journal* (2). The programs we chose were not randomly selected. We included mostly major medi-

cal centers engaged in psychiatric teaching and general hospitals with large psychiatric training programs. Wide geographical distribution was achieved by including centers in 35 states and the District of Columbia as well as the Canadian centers. Unfortunately, we cannot list the 100 addresses we used because the letter accompanying the questionnaire committed us to confidentiality. It was our hope that this statement, and the stamped return envelope enclosed, would stimulate response. Actually, this seemed to be the case, inasmuch as 85 questionnaires were quite promptly returned—a very high percentage as questionnaire surveys go. Many respondents were generous with information about their approach to psychiatric history or their aspirations for course-work in the subject. Some contributed outlines or reading lists, and, a few, overviews of their training programs. In all, the response was most gratifying and we would like to express our appreciation here to all those who expended their time to fill out the questionnaire and to write to us. To the many

FIGURE 1

Dear Dr.

We would appreciate it very much if you would take five minutes of your time to answer the four questions on the attached questionnaire. In the interest of post-graduate psychiatric education, we are conducting an informal survey of one hundred training centers in an endeavor to evaluate the emphasis which is placed upon a particular aspect of psychiatry — the historical aspect — in their teaching curricula. (By way of definition, the term "historical aspect" might include information from any of various sources: History, Medical History, Psychiatric History, Intellectual History, History of Science, etc.)

Your answers will be held in confidence, and your participation is greatly appreciated.

A stamped return envelope is enclosed for your convenience.

Sincerely,

who requested information regarding the results of the survey, it is hoped that this paper will suffice.

The Questionnaire. Reproductions of the questionnaire and the "covering" letter which accompanied it are given in Figure 1 and Figure 2, which are self-explanatory. The questionnaire focused on *attitude* and *method* in regard to teaching the History of Psychiatry, without emphasizing *content* specifically. Question 2 inquires regarding a systematic course: if one is offered and how it is designed. Question 3 refers to integrated teaching, reminiscent of the so-called Oslerian method which made the clinical or pre-clinical teacher responsible for the presentation of the history of his own field.

Findings. One hundred questionnaires were circularized (90 to U. S. centers, 10 to

Canada). Eighty-five were returned (77 from the U. S., 8 from Canada). In the (1939) Sigerist study, 77 Grade A U. S. Medical Schools were circularized and 74 responded. Sigerist assumed that the 3 schools which did not reply were not much interested in teaching medical history. We are probably justified in making a similar assumption in regard to attitudes toward psychiatric history in the 15 non-replying centers in our study. We will present our collation, therefore, in two percentage columns on the face of the questionnaire itself: one based on the ideal sample (100) and one based on the real sample (85). The collation was made using the hand tally method (Fig. 3).

The most frequently encountered response (57%) is shown in Figure 4.

FIGURE 2 QUESTIONNAIRE

1. In what way do you regard a course in the history of psychiatry:
 - a) as essentially of academic interest only. ()
 - b) as largely for the purpose of Board examination. ()
 - c) as an important or essential part of the post-graduate (residency) curriculum. ()

(Please check appropriate answer(s).)
2. a) In the curriculum at your center, is a separate course devoted to the history of psychiatry? Yes () No ()
- b) If so, in what year of the program is it offered?
- Required or elective?
- How many hours?
- Conducted by (psychiatrist, historian)?
- Required reading? Yes () No ()
- Textbook (title)?
- c) Would you please send reading list, if available?
3. Rather than treating history as a separate subject, do you blend historical information with your presentation of current theories and techniques? Yes () No ()
4. Do you regard the historical, evolutionary perspective as so important that, more than blending, you present psychiatric theory and technique entirely in a historical frame of reference? Yes () No ()

Comments amplifying or modifying your answers will be greatly appreciated. These may be typed on the back of this sheet or on separate pages.

Thank you very much.

We came to view this pattern as the standard response (normative or "socially desirable") to this kind of questionnaire. Often this response was accompanied by comments expressing the respondent's aspiration to develop the area of psychiatric history or regret for not having yet done so.

SUMMARY

One hundred teaching centers in the U. S. and Canada were surveyed for attitudes and practices in regard to the teaching of the history of psychiatry; eighty-five responded. The "standard response" indicated a favorable attitude toward psychiatric his-

FIGURE 3

Mailed: 100
Returned: 85

QUESTIONNAIRE

1. In what way do you regard a course in the history of psychiatry:

a) as essentially of academic interest only.

(7) 100 85
7% 8%

b) as largely for the purpose of Board examination.

(1) 1% —

c) as an important or essential part of the post-graduate (residency) curriculum.

(76) 76% 89%

2. a) In the curriculum at your center, is a separate course devoted to the history of psychiatry?

Yes (22) 22% 25.8% No (62) 62% 72.9%

b) If so, in what year of the program is it offered?

First: 11
Second: 3
First and second: 2
Misc.: 5

Required or elective?

Required: 20
Elective: 2

How many hours?

1-2 to 72
Average: 17

Conducted by?

Psychiatrist: 18
Historian: 2

Required reading?

Yes: 15
No: 6

3. Rather than treating history as a separate subject, do you blend historical information with your presentation of current theories and techniques?

Yes (64) 64% 75%

4. Do you regard the historical, evolutionary perspective as so important that, more than blending, you present psychiatric theory and technique entirely in a historical frame of reference?

Yes (22) 22% 25.8% No (51) 51% 60%

FIGURE 4

QUESTIONNAIRE

1. In what way do you regard a course in the history of psychiatry:
- a) as essentially of academic interest only. ()
 - b) as largely for the purpose of Board examination. ()
 - c) as an important or essential part of the post-graduate (residency) curriculum. (X)

(Please check appropriate answer(s).)

2. a) In the curriculum at your center, is a separate course devoted to the history of psychiatry?

Yes () No (X)

b) If so, in what year of the program is it offered?

Required or elective?

How many hours?

Conducted by (psychiatrist, historian)?

Required reading? Yes () No ()

Textbook (title)?

c) Would you please send reading list, if available?

3. Rather than treating history as a separate subject, do you blend historical information with your presentation of current theories and techniques?

Yes (X) No ()

4. Do you regard the historical, evolutionary perspective as so important that, more than blending, you present psychiatric theory and technique entirely in a historical frame of reference?

Yes () No ()

Comments amplifying or modifying your answers will be greatly appreciated. These may be typed on the back of this sheet or on separate pages.

Thank you very much.

tory, and an effort to teach it by blending historical aspects with current material. (The *pros* and *cons* of methodology must be reserved for another paper.) Twenty-two of the U. S. centers surveyed, and 2 Canadian centers offer systematic courses in this subject to their residents. The average curriculum time devoted to history is 17 hours.² Sixty-four centers reported that they integrate historical information with their presentations of current theories and techniques.

² Sigerist regarded 12 hours as the minimum time for an undergraduate course in medical history(8). At present, in Syracuse, 40 hours are devoted to a course in psychiatric history for second year residents.

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THE PSYCHIATRIST LOOKS AT PROFESSIONAL COURTESY¹

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Physicians by tradition and custom do not charge fees to other physicians or members of their families for professional services. In recent years there has been a growing resentment towards psychiatrists because charges have been made when physicians or their dependents sought psychiatric help. Inquiries on this aspect of professional courtesy have been directed to the governing bodies of both the American Psychiatric Association and American Medical Association, and to many state and county medical societies. At times complaints have been made to the Ethics Committees of these medical groups and in some cases psychiatrists have been judged as being unethical because they charged other physicians for services.

The Executive Council of the APA has considered this matter in the past and made several decisions regarding it. In May 1953 the APA Council ruled: "That it be ethical for a physician (psychiatrist) to levy fees negotiated prior to treatment against a physician-patient or a member of his family, if the services involved are likely to be prolonged." A year later in May 1954 the Council "unanimously went on record as disapproving the making of charges by psychiatrists for single visits or for short term therapy in the cases of physicians or their immediate dependents." The Judicial Council of the AMA has consistently held that psychiatrists should not charge other physicians or their dependents for psychiatric treatment. As a result the governing bodies of the two medical associations to which most psychiatrists belong have differing rules regarding professional courtesy when physicians or their dependents seek psychiatric help. Inevitably confusion and misunderstanding have ensued and an increasing problem has developed between psychiatrists and physicians in other branches of medicine.

The basis of medical ethics is to be found in the Oath of Hippocrates. It is popularly believed that professional courtesy (no fee for services) had its origin here. However, there is no reference to professional courtesy within the Oath, which reads in part³ "I swear . . . to regard my teacher in this art as equal to my parents; to make him partner in my livelihood, and when he is in need of money to share mine with him; to consider his offspring equal to my brothers; to teach them this art, if they require to learn it, without fee or indenture . . ." In earlier times when medicine was a secret cult the medical practitioner learned by apprenticeship—living in the home of his teacher and sharing his possessions. The practitioner repaid the favor by teaching the apprentices, treating his colleagues without fee and sharing his possessions. While no specific injunctions regarding professional courtesy were existent, the medical profession generally respected the broad principles of Greek medical ethics and tried to resolve moral and ethical problems on the basis of good taste and personal honor. There were no meticulous rules and no specific penalties except through the civil authorities in cases of gross quackery or criminal conduct. During the Middle Ages this medical idealism began to wane and the medical profession sought means to govern itself better.

In 1772 Gregory(1) wrote *The Duties and Qualifications of the Physician*. This treatise dealt with medical etiquette, the personal qualities of the physician, and his duty towards his colleagues. However, it was the appearance in 1803 of a book, *Medical Ethics: Or a Code of Institutes and Precepts Adapted to the Professional Conduct of Physicians and Surgeons*, written by an English physician, Thomas Percival(2), that established the present basis of medical ethics and professional courtesy. When first published it roused physicians all over the world to a new appreciation of their moral obligations. The book stressed

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the physician's professional responsibility to the sick, outlined his duties in hospitals and in private practice, at the same time stressing his relationships with colleagues, consultants and other healing professions. Percival's code was an attempt to formulate rules of proper conduct in medical practice by applying concrete rules rather than abstract principles as guides in particular circumstances. Percival called these rules "medical ethics." This phrase has continued in popular usage to the present time. Actually Percival's code is basically a book of medical etiquette concerned with the conduct of physicians towards each other and embodying the tenets of professional courtesy.

Percival was the first to state in writing that members of the medical profession, including their wives and children, should be attended gratuitously by physicians whose assistance might be required. In 1847 when the AMA was founded Percival's code was adopted almost completely in the Code of Ethics of the Association. The concept of gratuitous professional services to physicians and their families was enunciated here. Subsequent revisions of the AMA Code have contained this injunction in much the same language as used by Percival 160 years ago. Section I of the Principles of Medical Ethics states(3) : "As a general rule the physician should not attempt to treat members of his family or himself. Consequently, a physician should cheerfully and without recompense give his professional services to physicians or their dependents if they are in his vicinity."

A review of the medical literature reveals an absence of information regarding professional courtesy, particularly in the field of psychiatry. To ascertain current attitudes regarding professional courtesy in California questionnaires were sent to all the members of the Northern and Southern California Psychiatric Societies. In Southern California 498 questionnaires were sent, 268 returned, a 54% response; in Northern California 330 questionnaires were sent, 153 returned, a 46% response. Of the 828 questionnaires sent, 421 were returned, a 51% response for the whole state. Of these, 9 respondents were not in private practice; consequently the findings regarding the extension of pro-

fessional courtesy were computed on the basis of the 412 psychiatrists in private practice or seeing private patients. All other calculations in the questionnaire were computed on the basis of the 421 respondents. The findings from Northern and Southern California are listed separately to show the remarkable similarity of the statistical findings from the two areas (Figure 1). The historical and sociocultural settings of Northern and Southern California vary and there are some philosophical differences regarding medical practice which makes the similar findings in this survey rather significant. It would suggest that similar studies made elsewhere in the United States might show comparable trends.

No identifying data were requested in the questionnaires so the type of practice of the respondents was not specifically noted. Approximately 14% of the membership of the two psychiatric societies work exclusively in state hospitals and, with a few exceptions, did not participate in the survey. A sampling of the comments made in replying to the questionnaires suggested that the respondents encompassed every kind of private psychiatric practice.

This survey indicated that 98% of the psychiatrists answering did not charge for consultation services to a physician or a member of his family. For the first 5 visits 255 respondents (62%) made no charge; 118 psychiatrists (28.5%) made no charge for 10 visits; 35 (8%) did not charge for prolonged treatment. A few psychiatrists said they did not charge for the first year or for the first 100 visits or did not charge no matter how long treatment lasted. A large number (29%) treated doctors and their dependents at a reduced fee, usually 20%-25% less than the usual charge.

In the questionnaire psychiatrists were asked whether or not they accepted professional courtesy for themselves or their families. The majority (61%) stated they accepted professional courtesy although often with great reluctance. In many cases they requested the usual bill for services rendered but found doctors loath to charge them. However, 82 respondents (20%) said categorically that they refused to accept professional courtesy and insisted on paying full fees for services rendered.

The questionnaire inquired how payment was made for services rendered by other physicians. Most common was the giving of a gift to the physician, it being the method of choice for 64% of the psychiatrists; 40% had insurance coverage; 30% stated that they paid full fees. A small number stated that they made a partial payment of 50%-75% of the usual charge. In a few cases no payment or gift was offered.

It is commonly believed that professional courtesy may act as a barrier to seeking

medical assistance. Half the respondents (53%) stated they had no hesitation in calling a physician but 45% felt that it was a barrier to seeking medical care. However, when the psychiatrist's wife sought help for herself, her husband or her children, 46% of them considered the fact of professional courtesy a deterrent and only 36% found it no problem.

The questionnaire also contained the following items: *Do you believe better care for physicians and their families would result if arrangements for payment for services*

FIGURE 1
Attitudes of Psychiatrists on Professional Courtesy

	S. CAL.	N. CAL.	TOTAL
Questionnaires sent:	498	330	828
Questionnaires returned:	268	153	421
Percentage response:	54%	46%	51%
No charge for consultation:	258 (98%)	146 (98%)	404 (98%)
Charge for consultation:	5 (2%)	3 (2%)	8 (2%)
No private practice:	5	4	9
No charge—5 visits	160 (61%)	95 (64%)	255 (62%)
No charge—10 visits	81 (31%)	37 (25%)	118 (28.5%)
No charge—prolonged treatment	24 (9%)	11 (7%)	35 (8%)
Reduced fee for therapy	81 (31%)	38 (25%)	119 (29%)
Accept professional courtesy*	164 (61%)	95 (62%)	259 (61%)
Refuse professional courtesy*	56 (21%)	26 (17%)	82 (20%)
Payment for medical services:**			
Full payment	83 (31%)	40 (26%)	123 (30%)
Gift	166 (62%)	104 (68%)	270 (64%)
Insurance	106 (40%)	60 (39%)	166 (40%)
Hesitate calling doctor:			
Yes.....	115 (43%)	74 (48%)	189 (45%)
No.....	146 (54%)	79 (51%)	225 (53%)
Wife hesitates calling MD:*			
Yes.....	117 (44%)	75 (49%)	192 (46%)
No.....	107 (40%)	46 (30%)	153 (36%)
Favor previous fee arrangements	223 (83%)	115 (75%)	338 (80%)
Favor AMA study	213 (79%)	126 (82%)	339 (80%)
Favor insurance coverage	234 (87%)	130 (84%)	364 (86%)
Non-payment impairs treatment:			
Short term			
No.....	166 (62%)	95 (62%)	261 (62%)
Long term			
Yes.....	187 (69%)	115 (75%)	302 (72%)
Psychoanalysis*	173 (64%)	104 (68%)	277 (66%)
Therapist feelings involved:			
No charge—consultation	15 (5%)	7 (5%)	22 (5%)
No charge—brief therapy	67 (25%)	43 (28%)	110 (26%)
No charge—prolonged therapy	145 (54%)	94 (61%)	239 (56%)
Part charge—consultation	10 (4%)	8 (5%)	18 (4%)
Part charge—brief therapy	38 (14%)	24 (16%)	62 (15%)
Part charge—prolonged therapy	90 (33%)	51 (33%)	141 (33%)
Full charge—consultation	14 (5%)	10 (6%)	24 (5%)
Full charge—brief therapy	7 (3%)	3 (2%)	10 (2.5%)
Full charge—prolonged therapy	10 (4%)	3 (2%)	13 (3%)

* Not answered on all questionnaires.

** More than 100% since multiple replies given.

by mutual agreement were possible? Would this help the doctor-patient relationship? In 80% of the responses it was felt that fees should be discussed beforehand and a mutual agreement reached if a healthy doctor-patient relationship was to be achieved.

In psychiatric cases do you believe extending treatment without fee impairs the efficacy of treatment in brief psychotherapy, long term therapy, psychoanalysis? The majority (62%) expressed the view that short term treatment without fee was feasible but did not believe that long term psychotherapy could be done effectively if no payment was made. While 72% indicated long term treatment was not feasible only 66% expressed a similar opinion about psychoanalysis. Many respondents not practicing as psychoanalysts omitted answering this question producing the seeming discrepancy.

Check those situations in which treatment is impaired by your feelings which develop towards the patient in consultation, brief psychotherapy, long term therapy when no fee, part fee, or full fee is charged? Two-thirds of the respondents admitted to having strong personal feelings in one or more of these areas. The majority, 239 respondents (56%), stated that providing long term treatment for patients without charge was disturbing to them. One third stated that long term treatment at reduced fee aroused negative feelings. A small number (5%) felt disturbed if they were to charge a full fee for consultation.

Should the whole problem of professional courtesy be reviewed by the American Medical Association? Four-fifths of the respondents were in favor of this matter being studied to develop a viewpoint more consistent with present day practices. This is particularly essential in view of the differing philosophies of the AMA and APA.

Should physicians avail themselves of insurance to cover physician's medical fees for professional services to their family and themselves? The overwhelming majority (86%) indicated that all physicians should have adequate insurance to provide medical care for themselves and their dependents. Many recommended that the insurance should provide psychiatric coverage also.

DISCUSSION

Reviewing the findings of this survey a number of conclusions can be reached. It is apparent that psychiatrists as a group are keenly aware of professional courtesy. Contrary to popular belief nearly every psychiatrist provides gratuitous services to his professional colleagues and their families. Since, with rare exception, every psychiatric interview takes the same time, usually 45-60 minutes, the findings of this survey are that psychiatrists are willing to donate a considerable amount of time without remuneration. When a psychiatrist is seeing many physicians this can amount to a large percentage of his working hours. One respondent stated that 95% of his practice were physicians or their dependents and that it was manifestly impossible for him to extend more than limited professional courtesy. On the other hand some psychiatrists stated that physicians sought their help only at infrequent intervals and they could undertake prolonged treatment in the individual case without undue financial loss. As a general rule psychiatrists stated that they were aware of the honor implied when a physician or member of his family sought their professional care but at the same time realized that the psychotherapy required in most cases precluded courtesy being extended beyond a certain point. Some psychiatrists stated that they had never charged a physician in their entire professional life. However, the majority indicated that while psychotherapy without charge was possible in some instances usually the payment of a fee was necessary for a satisfactory therapeutic relationship.

The importance, both actual and symbolic, of payment for professional services has not been considered by the medical profession generally, although reference has been made to it in psychiatric articles (4, 5). Many physicians are resentful of the feeling of obligation when they are the recipients of free medical attention. Nearly half of the psychiatrists responding to this questionnaire expressed reluctance in accepting professional courtesy and one-fifth refused medical services unless they paid the regular fee. While nearly all the respondents made some form of payment it is

questionable to what extent cocktail shakers, vases, cases of liquor or similar gifts really meet the needs of the attending physician. It is true that gifts of savings bonds or merchandise orders come closer to cash payment but rarely do these represent more than a token payment for what would be the usual fee. Some physicians are indignant when the treating physician refuses to accept payment and frequently they seek help from another physician who understands their need to be allowed to pay for services rendered. A recent study has shown that 80% of physicians repay their treating physicians by referring other patients to them (6). Psychiatrists are not in a position to make this type of referral in the vast majority of cases.

The survey showed that each psychiatrist determines for himself the most effective relationship in treating his professional patient. In some cases he may choose not to make any charge whereas in other cases he may feel that the payment of a fee is important for a satisfactory therapeutic result. Sometimes the patient who does not pay the psychotherapist may feel inhibited in verbalizing his hostilities as treatment progresses. Sometimes being the recipient of this "favor" increases the patient's hostility. The non-payment for services may accentuate dependency traits or promote "acting out" behavior. It is well known that the manner in which the financial aspect of psychotherapy is handled by the patient is indicative of other attitudes in life, and the ability to discuss this during therapy provides insights that could not otherwise be achieved. The treating physician should be permitted to provide gratuitous services when he believes they will benefit the patient and similarly he should be permitted to charge a fee when he believes that this will facilitate treatment. The present mandate for gratuitous services forces the psychiatrist to treat all his physician patients alike with no consideration being given to the individual aspects of each case.

Many patients become increasingly guilty as treatment goes on without a charge being made. Similarly physicians generally become increasingly hostile when they feel inordinate demands are being made upon

their time. As this survey shows, the majority of psychiatrists believe that negative feelings can arise in both the therapist and patient when prolonged psychotherapy is undertaken at a reduced fee or no fee. It might be worth studying the attitudes of other medical specialists who are "doctor's doctors" to learn if comparable views are held. Some obstetricians, pediatricians, surgeons and internists have a large percentage of their practice made up of medical conferees and their families. Obstetrical care requires a great deal of time extending over the year. Pediatricians treating physicians' children must see them at regular intervals for years. Leading surgeons or internists inevitably find themselves called upon when a medical colleague or his family is in need of their specialized services. Unless the physician is unusual, he cannot help but have negative feelings if there is an inordinate demand for gratuitous services. It would be interesting to poll the faculty of any medical school to ascertain the extent to which they donate services without recompense. Unfortunately, up to this time the medical profession has refused to accept the possibility that these negative feelings can develop as a consequence of professional courtesy, and that poor medical care may result.

The survey showed that many physicians hesitate to seek medical care because of professional courtesy. The findings corroborate the impression long held that their wives are generally reluctant to seek medical care for the same reason. In this survey a large percentage of physicians' wives were reluctant to seek medical attention for themselves, their families or even for their husbands. Unlike other patients they do not always expect to receive the same attention nor can they make the same demands on the physician. Too often they receive inadequate medical care or delay seeking help because of the negative feelings that arise in both the patient and the doctor. In the book *The Physician and His Practice* (7), a chapter entitled "The Doctor's Wife" states that because of professional courtesy there is "embarrassment, fear of imposing and reluctance to consult" by doctors' wives.

Many physicians may not be aware of the

time required for psychotherapy. In other branches of medicine the initial contracts with the patient for a complete medical workup or for a surgical procedure may take hours but subsequent follow-up treatment usually does not require lengthy visits with the patient. In many cases the physician's nurse or technical assistant can be of great time-saving assistance. Every psychiatric visit takes almost one hour of the therapist's time; no one can substitute for him. Some physicians do not realize that psychotherapy may entail hundreds of hours; the average psychiatric case requires more time than all but the most complicated cases in medical practice.

While some psychiatrists have been the objects of resentment because they charge colleagues for psychotherapy, it is well known that other physicians also charge their colleagues for services rendered. Physicians commonly charge for x-ray or laboratory studies and many also bill for other medical services. Generally the personality of the attending physician and the extent of the demands on his time determine whether or not he requests a fee from a colleague. Because of the resentment held toward psychiatrists by some of our colleagues, a few physicians may openly or covertly express their hostile feelings, occasionally rendering a charge for services only because the patient is a psychiatrist.

Leake(2) has cogently discussed "the doctor's dilemma" in medicine's struggle between idealism and hedonism. Idealism is concerned with the needs of humanity while hedonism is concerned with self-interest. The medical profession has historically striven to be idealistic, with the interests of mankind, particularly the sick patient, pre-eminent. Yet at the same time the physician must live, he owes a debt to himself and to his family as well as to society. The code of medical ethics has been formulated basically to handle the schism between the needs of mankind and the financial needs of the individual physician. In Leake's opinion, the introduction of the phrase "medical ethics" by Percival was a misnomer since Percival's code was chiefly rules of etiquette developed to regulate the professional contacts of doctors with each other. It is his

belief that medicine has always had medical etiquette and medical ethics confused.

Medical etiquette is concerned with the conduct of physicians towards each other and embodies the tenets of professional courtesy. Medical ethics is concerned with the ultimate consequences of the conduct of physicians towards their individual patients and towards society as a whole and includes a consideration of the will and motives behind this conduct. "The difficulty is that professional courtesy is put upon the same plane and given the same respect as professional morality, when the common sense which characterizes the [medical] profession demands that it be relegated to a much less significant position"(2).

CONCLUSION

In treating a physician or a member of his family the psychiatrist should decide the basis for extending professional courtesy (no fee or reduced charge) upon the specific circumstances of the individual case. Generally psychiatrists do not charge for the diagnostic workup or for short term therapy. If long term therapy is indicated the matter should be discussed and a mutual agreement reached before undertaking treatment. In many cases prolonged treatment without charge may be conducive to poor therapeutic results owing to negative feelings in both the patient and therapist.

Professional courtesy may be a barrier to good medical treatment, in many cases causing delay in seeking medical help and producing negative feelings on the part of the patient and the treating physician. Insurance coverage for medical care would permit an adequate recompense being given without embarrassment to either party.

The present philosophy of the AMA that physicians are unethical if they charge other physicians or their families is not in keeping with present day practices. The doctor-patient relationship is impaired and frequently good medical care does not result. While the extension of professional courtesy reflects the best traditions of medical practice, physicians should be permitted to extend it by choice rather than by fiat.

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THE INHIBITORY INDEX IN RELATION TO EXTRAVERSION-INTROVERSION

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Jung's concept of extraversion-introversion as a basic dimension of human personality has been most intensively investigated by Eysenck and his colleagues (1, 2, *etc.*). In the course of their studies these workers have attempted to discover the type of nervous system that is associated with this dimension. Eysenck (2) put forward a "Typological Postulate" in which he related extraverted behaviour patterns to the type of nervous system in which "excitatory potential is generated slowly and weakly and reactive inhibition is developed quickly and strongly and dissipates slowly." Introverted behaviour is related to the opposite type. Though his postulate is worded in such a way that it is compatible with the existence of types of nervous system in which both excitatory and inhibitory processes are weak or both are strong, in his subsequent treatment he concerns himself only with weak excitation in combination with strong inhibition or vice versa. On the other hand, in the writings of Pavlov (3, 4) a "weak" type of nervous system in which both processes are weak and a "strong" type in which both are strong are repeatedly described.

To derive a theory of nervous type in respect to extraversion-introversion from the findings of Pavlov, it would seem most relevant to consider the two types of dog he constantly contrasts in his writings—the quiet and the lively. In human typology

these would correspond to the introvert and the extravert respectively. Pavlov (4) concluded that the inhibitory process is stronger in the former and the excitatory process stronger in the latter, and his experimental data strongly support this conclusion. Hence, in relating extraversion-introversion to a measure of inhibition it would be predicted from these findings that extraverts would show weak and introverts strong inhibition. This is in opposition to Eysenck's postulate. A complication in utilising Pavlov's theories in relation to inhibitory processes is that he advances evidence for the existence of two types—external and internal. In an attempt to relate these findings to recent developments in neurophysiology it has been suggested that external inhibition is the inhibitory process which accompanies attention and is associated with the arousal response of the EEG (5, 6). This is in conformity with Kogan's demonstration (7) that this response has both excitatory and inhibitory aspects. As Sokolov (8) and Anokhin (9) have demonstrated, this response is produced in an animal whenever an unexpected event occurs or an expected event fails to occur. These are precisely the situations in which learning takes place. It has been hypothesised (6) that when an unexpected event occurs, cerebral excitatory connections are set up to represent it and link it to those connections active immediately prior to the event occurring, so that in similar circumstances in the future there will be a tendency to expect the event. (These connections make up the "neuronal model" in Sokolov's, or the "acceptor of the action" in Anokhin's terminology.) Similarly when an expected event fails to occur, internal inhibitory connections are set up within the linkages active prior to the failure of the event to occur, *i.e.*, within the linkages responsible for the faulty expectation, so that in similar circumstances in the future the tendency to expect this event will be weakened. Hence, the event in the focus of attention—the ex-

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citatory area of the arousal response—is linked with excitatory connections; and the linkages active prior to the arousal response, but now under the external inhibition produced by it, are weakened with internal inhibitory connections. It would therefore seem probable that a function of the arousal response is to produce excitatory connections in its area of excitation and inhibitory ones in its area of inhibition. Pavlov(4) has shown that stimuli which produce linkages in areas of the cerebrum under inhibition produce internal inhibitory linkages. In fact he put forward a theory similar to that stated above:

the mechanism of development of a conditioned reflex and the mechanism of external inhibition are somehow similar, and the process of external inhibition bears some relation to the development of new connections.

Aleksanian(10) has stressed this point in relation to internal inhibition: "internal inhibition develops on a basis of inhibition produced by the mechanism of induction" (i.e., in this context, on the basis of external inhibition).

To develop a theory of personality based on the above mechanisms one could postulate variations in strength of both the arousal response and of internal inhibition. If both were weak, excitatory and inhibitory connections would be established slowly; if the arousal response were weak but internal inhibition strong, excitatory connections would be established slowly but inhibitory ones more rapidly; if the arousal response were strong but internal inhibition weak, excitatory connections would be established rapidly, but inhibitory ones more slowly; and if both were strong, both types of connection would be established rapidly. Such a classification would be in reasonable conformity with the findings of Pavlov, as to the variations of these processes in dogs(3), and in complete conformity with the findings of followers of Pavlov as to the variations of these processes in humans, e.g., Briks(11).

It has been advanced(6) that a type of abstract thinking, called allusive thinking, exists in a percentage of normal persons. It was suggested that this thinking is due

to a weakness of external inhibition in the nervous activity of these individuals. The well-known difficulty in learning the central items of word lists was investigated in a group of allusive and non-allusive thinkers. Using the above learning theory it was suggested that in learning a list attention is focussed on each item in turn, so that the linkages in the cerebrum representing the items not in the focus of attention would be under external inhibition. Internal inhibitory connections would therefore be set up in these linkages, thus producing the difficulty in learning the central items. If allusive thinking is due to weak external inhibition it would be expected that persons with this condition would show less difficulty in learning these central items. Using the "inhibitory index" as a measure of the difficulty this was shown to be the case. However, if persons also differ in the strength of internal inhibition this would contribute to the difficulty of learning the central items of a word list. The inhibitory index would then measure the combined strength of external and internal inhibition.

As previously stated, Pavlov's findings indicate that extraversion is related to weak and introversion to strong inhibition. Whether this inhibition is internal or external or a combination of both does not seem apparent. However, whichever is the case, if the inhibitory index measures a resultant of both these inhibitory processes, this index should also be related to the dimension of extraversion-introversion in such a way that the scores of extraverts on this index would be lower than those of introverts. Eysenck has indicated(2) that from his theory the reverse would be predicted. In the following experiment this relationship between extraversion-introversion and the inhibitory index is investigated:

The Experimental Group. This consisted of 28 fourth year medical students, 15 third year chemistry students and 20 acquaintances of the author, the last group being selected to contain 10 individuals with and 10 without allusive thinking. The former two groups were interviewed individually for approximately 10 minutes by the author and classified into those with and those without allusive thinking on the

basis of the description advanced previously (6). All subjects were given Eysenck's 6-item extraversion-introversion scale to complete. The subjects were then divided into 4 groups on the basis of these two dimensions—allusive extraverts, allusive introverts, non-allusive extraverts and non-allusive introverts. The characteristics of these subgroups were as follows.

There were 13 allusive extraverts, 11 males and 2 females, with a mean age of 22.1 yrs. (range 20-30); 30 allusive introverts, 25 males and 5 females, with a mean age of 23.3 yrs. (range 19-37); 13 non-allusive extraverts, 7 males and 6 females with a mean age of 27.2 yrs. (range 19-39); and 7 non-allusive introverts, 6 males and 1 female with a mean age of 24.4 yrs. (range 20-39). The age and sex of each subject are given in Table 1.

METHOD

The measurement of the inhibitory index of each subject was made by a technique modified from that described previously (6). Each subject first learned 2 lists of 9 nonsense syllables, to the criterion of 2 consecutive correct performances or for 16 trials, whichever came first. This was followed by the learning of 3 word lists of 16 words, to the criterion of 2 consecutive performances or for 10 trials, whichever came first. The technique was otherwise identical.

RESULTS

The difficulty each subject had in learning the central portion of the word lists was quantified by the use of the following formula, modified from that given previously.

$$\text{Inhibitory Index} = \frac{\text{Total number of items learned correctly up to but exclusive of the first correct performance or in 10 trials, whichever criterion was reached first.}}{\text{Total number of items in the middle 1/4 of the list learned correctly in the same number of trials.}}$$

(I.I.)

As in the previous experiment, the lowest value of I.I. for each subject was selected, in order to test the relationship with allusive thinking. The rationale for this procedure

is that external inhibition, the inhibitory process accompanying attention would be, like attention itself, a very labile and fluctuating process and therefore differences in its strength in different individuals would manifest themselves only with measurements made when it was near one of the extremities of its range, *i.e.*, at its strongest or its weakest. However this would not necessarily apply to internal inhibition. So to test the relationship between I.I. and extraversion-introversion, both the lowest value and the mean of the values for the 3 word lists were employed. These scores are given in Table 1. Both of these values were related to extraversion-introversion in such a way that extraverts (subjects with scores of 7 or more on the extraversion-introversion scale) showed lower I.I. scores than introverts (subjects with scores of 6 or less on the scale). The relationship with the lowest value of I.I. is significant only at the 10% level. However, that with the mean value is significant beyond the 1% level. (The "t" test was used to estimate these levels of significance.) The tetrachoric correlation coefficient for these relationships of I.I. with extraversion are for the lowest value of I.I., $r_{tet} = -.15$; and for the mean value of I.I., $r_{tet} = -.60$.

In regard to allusive thinking the mean value of I.I. shows no relationship. However, as in the previous experiment (6), the lowest value of I.I. is higher in non-allusive than in allusive thinkers ($r_{tet} = .2$), but on this occasion not significantly so. This could mean that the relationship previously observed is not valid. However with the present group of subjects there is a marked correlation between the presence of extraversion and non-allusive thinking ($r_{tet} = .5$). This means that the tendency for extraverts to obtain low I.I. scores would oppose any tendency for non-allusive thinkers to obtain higher scores than allusive thinkers. In order to eliminate this influence of extraversion on the relationship between allusive thinking and the inhibitory index, a partial correlation coefficient was computed. The value of this partial correlation was .32.

The possibility that differences in age and sex of the subjects might contribute to the above relationships was investigated. This was found not to be the case.

TABLE 1

EXTRAVERSION		ALLUSIVE THINKERS			NON-ALLUSIVE THINKERS			
SCORES	AGE	SEX	LOWEST I.I.	MEAN I.I.	AGE	SEX	LOWEST I.I.	MEAN I.I.
12	21	M	3.7	4.2	39	F	4.1	5.0
	21	M	3.4	4.5	20	M	3.7	4.5
	28	M	3.3	4.1	22	M	3.2	4.2
11					19	M	4.1	4.3
					29	F	3.6	4.4
					33	M	5.1	6.7
10	30	F	3.7	5.9	20	M	3.8	4.8
					31	F	4.2	5.7
					31	M	3.9	4.2
					29	F	3.6	3.8
9	20	M	3.9	4.7				
8	20	M	3.5	4.3	21	F	4.8	5.1
	21	M	3.8	4.4	34	M	3.3	4.1
	24	M	4.0	9.4				
7	21	M	3.5	3.7				
	20	F	3.3	5.3				
	20	M	4.0	6.9	26	F	4.0	5.1
	21	M	4.9	5.5				
	20	M	4.4	4.9				
MEANS			3.8	5.2			4.0	4.8
6	22	M	4.1	7.2	20	M	5.1	5.6
	22	F	5.6	6.3				
	23	M	4.2	8.3				
	23	M	4.7	4.9				
	21	M	3.7	4.5				
	23	F	4.3	5.1				
	30	M	3.5	8.1				
	29	M	3.6	5.5				
	27	M	3.3	6.8				
	37	F	3.9	7.0				
5	21	M	4.6	4.9	22	M	5.0	6.4
	21	M	4.1	5.5	27	F	3.6	10.2
	20	M	4.1	11.1				
	21	M	3.2	3.5				
4	20	M	3.5	4.5				
	21	M	4.5	5.7	39	M	3.7	4.5
	21	M	3.8	7.1	21	M	4.2	5.5
	21	M	5.5	6.4				
	20	M	3.2	5.7				
	21	M	3.1	3.8				
	20	F	3.8	5.2				
	19	F	5.2	7.5				
	26	M	5.9	8.4				
	35	M	3.1	4.5				
2	23	M	3.5	7.4	21	M	4.5	5.2
	19	M	3.5	5.0				
	20	M	3.5	4.5				
	20	M	5.4	6.0				
	32	M	3.3	5.0				
1	21	M	6.1	6.9				
0					21	M	4.2	5.2
MEANS			4.1	6.1			4.3	6.1

DISCUSSION

It has been shown that extraversion-introversion is related to the assumed inhibitory process which produces difficulty in learning the central portion of a serial learning task. Furthermore this relationship becomes more apparent when the mean of three learning tasks by each person is utilised. Under these conditions the relation of allusive thinking to this difficulty disappears. This suggests that extraversion-introversion and allusive thinking produce this difficulty through two separate inhibitory processes, that with which extraversion-introversion is related being more stable and the other more labile.

The learning theory advanced in the introduction led to the conclusion that this difficulty was due to the combined action of external and internal inhibition. It has been advanced that allusive thinking is due to weak external inhibition and its clinical nature is consistent with this(6). It is therefore hypothesised on the basis of the present finding that extraversion-introversion is related to internal inhibition and in such a way that extraversion is associated with weak and introversion with strong internal inhibition. This is in conformity with the prediction made from Pavlov's finding, as stated in the introduction, but in opposition to the theory of Eysenck. As Eysenck's theory has been related to a considerable amount of experimental data, this will now be examined for possible incompatibilities with the finding of the present study.

Franks(12) has reported that introverted normal subjects condition better than extraverts. Eysenck explained this by his postulate that extraverts build up inhibition more rapidly than introverts and therefore condition more slowly. Relating the rate of conditioning to the strength of inhibition in this way is incompatible with Pavlov's finding that there is no fixed relation between the two processes of excitation and inhibition. In terms of this theory rate of conditioning is a measure of the excitatory process only. So there would appear to be no necessary incompatibility between Franks' finding that extraverts condition poorly and that of the present study that they show weak inhibition. Together they support Pavlov's con-

clusion that the excitatory and inhibitory process show no fixed relationship.

The finding that sodium amytal reduced conditionability and at the same time increased the degree of extraversion of human subjects(13) has been similarly used to support Eysenck's theory. However it has been shown by Livshits(14) that narcotics in fact temporarily weaken internal inhibition. It would therefore appear that narcotics weaken both excitatory and inhibitory processes, as would seem probable, since these are both active processes. Hence the increased extraversion produced by depressive drugs is associated with a weakening, not a strengthening of inhibition, as required by Eysenck's theory.

Other correlations reported between extraversion-introversion and behavioural characteristics are that extraverts tend to develop hysterical and psychopathic psychiatric illnesses, and show low persistence and greater reminiscence and figural after-effects. Introverts tend to develop anxiety states, reactive depression and obsessional states, and show high persistence and less reminiscence and figural after-effects(2). In regard to reminiscence and figural after-effects, Becker(15) has shown in reviewing the literature and in a study of his own, that measures of these phenomena show no significant relation to extraversion-introversion.

Eysenck explains the relation to psychiatric illness and persistence by Frank's finding that hysterics and psychopaths condition poorly(12). He concludes that hysteria and psychopathy result from a strong inhibitory process. However weakness of inhibition has been reported in hysteria(16-18) and psychopathy(19). Eysenck has explained the psychopathic-like behaviour of post-frontal lobectomy patients as due to poor condition-ability resulting from strong inhibition. Again weakness of both excitation and internal inhibition has been reported following this operation(20, 21).

Hence it would seem there is a body of evidence supporting the conclusion that hysteria and psychopathy—the psychiatric illnesses associated by Eysenck with extraversion—are accompanied by a weakness of inhibition. In accounting for this the author believes the theory of Anokhin(9) to be

relevant. He has concluded that when an animal commences to carry out an act, a neuronal model is set up in the nervous system of the completed act—the “acceptor of the action.” Unless the results of the act as it is completed in reality coincide with this model, the orientation reaction is called forth and the animal shows evidence of excitement, restlessness, *etc.* The author believes this to be significant for the understanding of human anxiety. It is considered that a degree of anxiety or tension is experienced whenever an action is suspended (*e.g.*, in a conflict situation when one of the conflicting actions cannot be carried out) or inadequately completed (*e.g.*, in response to a threatening situation which cannot be adequately dealt with). Under these conditions the excitatory process in the CNS which is producing the action is held under inhibition, to produce the mental sensation of tension, and through the orientation or arousal reaction, the physiological concomitants of anxiety.

The process of internal inhibition is that which is responsible for producing fine differentiations. Hence the accuracy with which the result of the completed action is compared with the “acceptor of the action” will be a function of internal inhibition. If this process is weak a poor resultant action will be adequate to coincide with the neuronal model. If it is strong a much more accurate end result will be required. That is to say, if instructed to carry out a task, extraverts (who show weak internal inhibition) will be more content with a poor performance than introverts who, if sufficiently motivated, will be more likely to show anxiety unless a reasonably high level of performance is reached. Similarly in a conflict situation extraverts would be more likely to react with a poorly effective response, *e.g.*, an emotional outburst or an hysterical symptom, while introverts would continue to experience anxiety.

An experiment relevant to this theory is that reported by Russell Davis(22). He utilised a situation in which “subjects were obliged to carry out for a relatively long time a task in which they were unable to obtain a satisfying level of performance.” He found his subjects tended to fall into two groups: one—the overactivity class—

continued to try to overcome the test difficulties but showed agitation, restlessness, flushing or pallor and visible sweating, and felt excited, tense or sometimes frankly anxious. Subjects in this class sometimes returned and asked to do it again or talked about it with surprising persistence—indicative of the excitatory process persisting under inhibition. The second group—the withdrawal class—early showed a tendency to overactivity, but were less hurried, showed less restlessness and later became bored and lost interest. They gave the impression of lowering their standards to well within their powers. Russell Davis does not relate his classes to the extraversion-introversion dimension. However in another experiment (23) he gave neurotic subjects a similar task and concluded that overactivity tended to be shown by those assessed as obsessional, and withdrawal by those of hysterical disposition. Also Venables(24) has shown that extraverts tend to change their performance in the direction of inertness with an increase in task difficulty whereas introverts do not. The theory advanced above is therefore considered to explain the tendency for extraverts to show low persistence and hysterical and psychopathic reactions, and introverts to show high persistence and anxiety reactions, on the basis that the former show weak and the latter strong internal inhibition.

In summary, there appears to be no incompatibility between the findings with which Eysenck has supported his theory and the present study which indicates that extraversion is associated with weak and introversion with strong internal inhibition.

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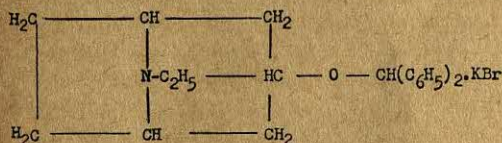
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THE TREATMENT OF PARKINSONISM WITH UK 738 : A CLINICAL TRIAL

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Despite the efficacy and relative safety of modern surgical methods for relief of Parkinson's disease, there will always be a place for the medical treatment of this condition. It is important, therefore, that any new drug be critically evaluated.

Such a new substance is UK 738 (n-ethyl-nortropine-benzhydryl-ether-hydrobromide), one of a series of compounds synthesised by Jucker and Lindenmann in 1959(1). The structural formula is :



Although of the atropine group this compound contains neither tropic acid nor any free hydroxyl groups, and could be expected, therefore, to possess properties differing from those of the parent atropine. Pharmacological studies of UK 738 indicate that in vitro it has a peripheral anticholinergic activity comparable to atropine, but in vivo this peripheral action is about 10 times weaker although its central effects are as great if not greater than atropine on a weight for weight basis. UK 738 may be regarded therefore, as an anticholinergic agent with a high ratio of central activity. UK 738 exhibits in addition considerable histamine activity, and this property, together with its central anticholinergic ac-

tion, suggests that it should be useful in the treatment of parkinsonism(2).

Recently May and his colleagues have described their experiences with UK 738 in the treatment of the parkinsonian syndromes induced by phenothiazine(3, 4). In 23 of 24 patients in an uncontrolled trial the extrapyramidal signs and symptoms could be removed or reduced by the new drug despite continuation of the phenothiazine therapy. It was in view of these encouraging findings that it was decided to assess the usefulness of this drug in the treatment of naturally occurring parkinsonism.

MATERIAL AND METHODS

It should be widely recognised today that if a therapeutic trial is to give any worthwhile results, it must be carefully controlled and preferably blind or double blind, as has been made very clear by Reid (5) and Truelove(6). Before embarking on such a trial in this case, however, a preliminary open trial was carried out. This was done for the following reasons.

1. To determine a suitable dose to be used in the controlled trial.
2. To give some indication of the frequency, nature and severity of any side effects which might occur.
3. To see if the drug was effective at all. Open trials will frequently give a false positive result but never a false negative. If the drug appeared valueless in the first trial, there would be no point in continuing with the second.

Patients taking part in the trial were selected from the neurological outpatient department of the General Infirmary at Leeds. The only criteria for inclusion were that they were suffering from noniatrogenic parkinsonism, were able to attend frequently and regularly for assessment and were willing to take part in the trial; none were excluded on the grounds of the mildness or severity of their disease. It was explained to all those taking part that they

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The author would like to thank Messrs. Sandoz for their generous supplies of UK 738 and benzhexol, and for preparing the identical tablets required for the double blind trial. His thanks are also due to Mr. Blacow, pharmacist to the Leeds General Infirmary, for his help in managing the double blind trial and for preparing the random treatment schedules. Finally he would like to thank Dr. Hugh Garland, whose patients took part in the trial, for permission to publish this report and for his help in its preparation.

were being given an experimental drug, but no further details were disclosed to minimise any effects of suggestion. No distinction was made between those suffering from arteriosclerotic, post-encephalitic or idiopathic parkinsonism, and indeed it was impossible to allocate some patients with any certainty into any particular group.

Each patient was seen monthly and at each visit asked for his opinion of the previous month's therapy. He or she was specifically questioned about well being, tremor, rigidity, and any specific symptoms such as oculogyric crises or retropulsion. Unless mentioned by the patient, side effects were not mentioned. Obvious changes, if any, in tremor and rigidity were noted.

Attempts to develop simple, reliable and useful methods of objective assessment were unrewarding and this has been the experience of other workers. Webster(7) who devised a complex mechanical method of measuring rigidity and tremor confesses that "Most objective methods have not correlated well with surgical and medical therapies," while Burns and DeJong(8) who used a battery of more simple tests found that day to day fluctuations were so great that they were only able to obtain significant results when using the untreated side as a control in patients who had had a pallidectomy. Agate, *et al.*(9), claimed to be able to detect significant changes in signs after therapy but their apparatus, involving the use of a torque converter, is far too complex for clinical use. Kaplan, *et al.*(10), found that an overall assessment was of more value than the measurement of individual signs, while Merrit(11) states that "The beneficial effects of medical therapy seem largely to be of a subjective nature." No attempt, therefore, was made to record physical signs quantitatively, although in every patient the speed and quality of handwriting was noted.

Quite apart from these considerations it was felt that a considerable degree of objectivity would be introduced into the investigation by the fact that the second trial would be a double blind trial. When all is said and done the usefulness of a palliative drug is not to be measured by the reduction of physical signs but rather by any improvement the patient himself feels.

PRELIMINARY TRIAL

Twenty patients took part in this trial, of whom 14 had been treated with other drugs in the past and were able, therefore, to express their view as to the efficacy of UK 738 in comparison with their previous therapy. The dose used ranged from 4.0 mg. to 10.0 mg. per day in divided doses. The maximum corresponded to a daily dose of 0.2 mg. per kilo of body weight. It was found that most patients obtained the maximum improvement with the minimum of side effects on a dose of 6.0 mg. per day, and this was taken to be the optimum dose to be used in any subsequent trial. No side effects were seen in the patients who had the maximum dose per body weight. Side effects were found to be drowsiness, "light-headedness" and ataxia which, while never very severe, were enough in 3 cases to counteract any possible beneficial effect.

The results are summarised in Table 1 and suggest that UK 738 might be of use in the routine treatment of parkinsonism. Indeed several of the patients were enthusiastic that this was a great advance on their previous treatment. It was decided therefore that a carefully controlled trial should be carried out.

TABLE 1

	IMPROVED UNCHANGED INTOLERANT			
Untreated	6	5	1	0
Previously treated	14	11	0	3
Total	20	16	1	3

DOUBLE BLIND TRIAL

Since the purpose of this investigation was to determine not only whether UK 738 was effective in the treatment of parkinsonism but to see if it marked any advance over existing therapies, it was compared not only with a dummy, but with benzhexol. This substance was chosen as a representative of existing remedies because it is generally accepted as the most effective(12), and because the author had more experience with this than other products. Identical tablets were prepared therefore containing either 2.0 mg. of UK 738, an inert substance or 2.5 mg. of benzhexol.

A randomised treatment schedule was drawn up by the hospital pharmacist and was not available to the clinician until the end of the trial which lasted 3 months. He merely wrote a prescription for "parkinsonism trial" and was quite unaware of the order in which the patient was receiving the drugs which changed each month. Each patient therefore acted as his own control and, in fact, was not aware that he had more than one drug.

Twenty patients took part in this trial as in the first, 9 being men and 11 women. Their ages ranged from 37 to 67 with an average of 54 years. The duration of their illness ranged from 2 to 20 years with an average of 8 years.

RESULTS

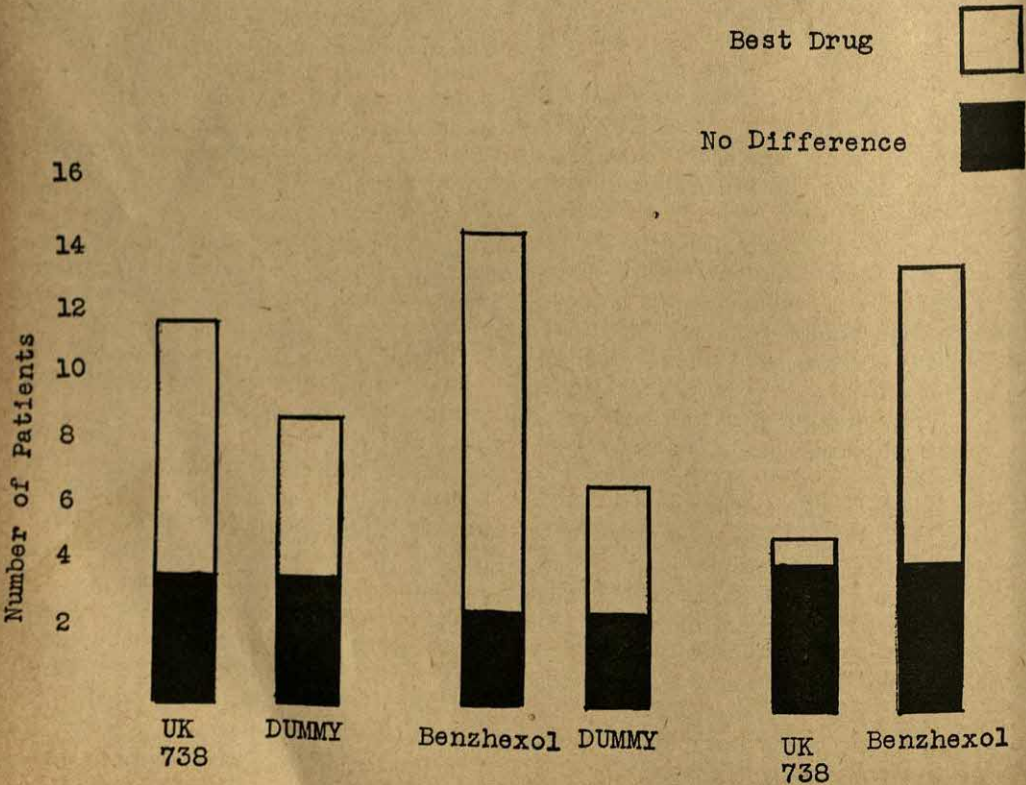
Any improvement which patients felt on either UK 738 or benzhexol was usually described as a "loosening up" and a general feeling of well being. Few patients noted any reduction in tremor and when

this was mentioned, it took place equally on the new drug or the dummy. In no case was it possible to detect any change in rigidity or tremor by conventional clinical examination. No change in speed or quality of handwriting was observed, nor was any reduction in salivation, retropulsion or the frequency of oculogyric crises to be seen.

With the dose used, no side effects were seen with benzhexol, but 2 patients complained of "lightheadedness" with UK 738, while 1 patient complained bitterly of nausea while taking the inert tablets. Many patients however said they were "worse"—i.e., their rigidity or tremor was worse on one or other of the three treatments. This "negative placebo reaction" in which a dummy tablet, expected to do good in the patient's mind, can produce an exacerbation of the original symptoms is very difficult to explain.

The results of this trial are summarised in Table 2. The striking feature is not only the minimal difference between the dummy

TABLE 2
Results of "Double Blind" Trial Expressed as Differences in Pairs of Treatments



and UK 738, but the only moderate effectiveness of benzhexol when taken "blind." The contrast between the results obtained in this trial and in the preliminary open trial is what experience would lead one to expect.

CONCLUSION

These results show that UK 738 has only a very slight effect on the symptoms of naturally occurring parkinsonism, and it is not as effective as benzhexol. When compared with a dummy in a double blind trial, benzhexol itself is not outstandingly effective.

These results are very different from those obtained by May and his colleagues (3, 4) and although their cases were of phenothiazine induced parkinsonism, it is more likely that the discrepancy is due to their lack of control in the trial than to any difference in aetiology.

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THE PHYSICIAN, PSYCHIATRY AND THE PUBLIC HEALTH¹

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There exist in both the industrialized and the developing communities and nations of the world remarkable opportunities and broad horizons for an integration of public health and psychiatric concepts and practices into the everyday services rendered by physicians everywhere. The intent of this presentation is to foster further realization than has heretofore occurred.

It is common knowledge that the patient is, has been, and always will be the *raison d'être* of a community's medical service and that the character of this service is largely determined by the cultural structure of the community. Of unquestioned importance is the stage of development in scientific and technical knowledge of the community, but the psychiatric aspect of this community service must be considered also. Up to now in many of the so-called civilized communities of the world this has not been the case.

We are reminded that psychiatry among the various branches of medicine by the very nature of the diseases which are its concern requires a very high degree of specialization in addition to the broadest medical and cultural education. Medical historians have reminded us that the history of medical psychology has been punctuated by the physician's struggle to rise above the prejudices of the ages so that he might identify himself with the psychological realities of his patients. One viewpoint is that the history of psychiatry is essentially the history of humanism. Every time humanism has diminished or degenerated into mere philanthropic sentimentality, psychiatry has entered a new ebb. Every time the spirit of humanism has arisen, a new contribution to psychiatry has been made and therefore a new contribution to the public health and welfare. Throughout the

world physicians are striving to assume their rightful responsibilities to attain and maintain the highest possible levels of health among the peoples for whom they are the health guardians(1).

If one were to initiate a mental health program as an integral part of a health service we would benefit from the world-wide experience that competently trained personnel are the starting point, for unless a nucleus of well-trained professionals is available, the creation of new services, or the expansion of any existing ones had better be postponed, since inadequately staffed programs are costly not only in terms of health, morbidity and money but also in the potential loss of public confidence which may impair the future support and developments.

The shortage of high quality medical practitioners is a problem of world-wide concern for there are but one million physicians in the world today being produced at the rate of 65,000 per annum from 80 countries and 670 medical schools. If this be the case and the possibilities for expansion while likely are certain to be a long time in coming because of the nature of the required preparation and training, one perhaps needs to raise the question of the philosophy and content of medical education as well as the optimum utilization of scarce professionals. Throughout the world opportunities to make decisions in these areas exist widely. It is the hope of this presentation that some of its philosophy will become incorporated in the decisions.

Medical historians point out that where medicine has emerged beyond the stages of magic and empiricism, medical education has been based on and characterized by the principles of, first, a scientific approach to professional activities, second, a charitable and ethical approach to the patient, and third, a constructive, critical, and understanding attitude toward the environment. Current trends in medical education throughout the world would indicate an increasing predilection to prepare the stu-

¹ This is adapted from a presentation entitled: "The Physician and the Community Mental Health" delivered at the First Pan-African Psychiatric Conference, November 12-18, 1961, Aro Hospital, Abeokuta, Nigeria, West Africa.

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dent for medical work in what has been referred to as the "open community" and not merely in the hospital alone although this latter form is by far the most prevalent. The rationale lying behind this is familiar. Current medical practices would indicate that the patient should as far as possible remain in his usual environment and in an independent and self-supporting fashion. He should utilize wherever possible the support and guidance of his immediate family members and, failing this, an extension beyond the home into outpatient facilities and, finally failing these extramural services, in-hospital services which should be kept minimal in duration to avoid dangers of hospitalization familiar to modern practitioners. If indeed mental health plays an integral part in any health program, and medical schools are obliged to prepare their students to assume the responsibility for the professional services, community leadership and their own continuing education, then a variety of teaching resources and teaching methods, often referred to as community medicine, are indicated. Here the student is introduced to the process of applying the scientific component of medicine together with the resources available in the community by cooperating with other health workers on the one hand and approaching the home and occupational environment of the patient on the other.

Very often the development of a department or a chair of preventive and social medicine is a desirable prerequisite in meeting this primary responsibility for that part of the student's education which is dependent upon the study of the patient in the aforementioned situation. This indicates the utilization of the community as a laboratory for the study of health and illness phenomena under the same rigid standards that apply to the study of those aspects of disease which must be observed in the science laboratory and the hospital ward. One immediately thinks of extra-mural teaching facilities of the health center, field demonstration, and family care agencies which are already available in some medical centers.

If the physician of tomorrow is to practice in the light of available medical knowl-

edge and render his patients the services they need, undergraduate medical education must afford opportunities for the student to develop understanding of the origins, recognition, and management of psychologic processes and psychiatric disorders, just as it provides these opportunities in so-called physical or organic medicine(2).

Not all of these concepts have to be presented by psychiatrists. Instructors in pediatrics, internal medicine, and obstetrics, gynecology have much to offer, as have social scientists. Longitudinal courses in family medicine, and participation in urban and rural community health center activities afford many occasions for students to acquire knowledge of the social and environmental aspects of various disorders. Such knowledge is crucial to the practice of top-flight medicine anywhere in the world.

It is not a vain hope that one day curricula committees in medical schools will recognize four basic clerkships—medicine, surgery, pediatrics, and psychiatry. If the physician of tomorrow is to develop as an effective personal and community advisor, and to make a lasting contribution to the mental health of his community, he must, during his student days, acquire a genuine understanding of social, cultural, anthropological, and community problems. At the same time, emphasis on the student's need for compassion and humanism must not be confused with the scientific knowledge of human behavior which he also needs.

It is reasonable to hope that, in the future, admission to a medical school will include as true prerequisites some education in the social sciences and the humanities in addition to the usual present day emphasis upon the biological and natural sciences. These requirements for admission not only would ensure the physician's professional interest in the total personality of his patients but would also prepare him for recognition of a possible participation in the mental health aspects of illness in general.

Medical faculties today are being encouraged to pay greater attention to the individual medical student, his motivation, goals, interests, and special abilities. Certainly, if physicians are going to care for the mental health of their communities, they

must be so trained and cannot be allowed merely to depend upon some sort of intuitive humanism. Some professors in America maintain that clinical teaching is an attempt to bring our knowledge of human biology to the bedside, and certainly the practitioner's use of available biologic knowledge is seriously deficient if it does not include mental health and mental illness.

With increasing family mobility throughout the world in both the industrialized and developing nations a definite amount of knowledge of preventive psychological medicine is a desirable attribute for the physician who is uniquely placed to help the family make its moves under the least emotionally traumatic circumstances, since current indications suggest the crucial importance of the family unit to the stability of the individual. Sometimes the physician can enlist the support of the nursing and social welfare professions when he himself cannot follow the family to its new location. In any event, the physician will be most effective when he clearly recognizes his role in maintaining the home as a healthy, stable unit which will contribute to the physical and mental health of the children and their parents(3).

If his training has been adequate, the good family physician of the future will apply psychological principles to the life crises of his patients—the child facing an operation, the grief-stricken parent, the expectant mother who needs information, attention and advice from the physician himself, from the midwife, and from the public health nurse. All maternity care personnel—medical students, general physician, obstetricians, nurses, and public health workers—should, during their training period, acquire “an adequate knowledge of personality structure and development” to “aid them in understanding and modifying human behavior.” The World Health Organization believes that such education can be more effectively carried out when well integrated into the curriculum of established courses rather than given on a separate course(4). Practical physicians will encourage all such training programs so that the value of the paramedical personnel who work with them will be increased.

During the normal growth and development of the child, the good physician will be aware of the psychological components and will be able to reduce the anxiety of the overzealous mother. The well-child clinic offers physicians opportunities to carry out good health procedures not only for the physical well-being of the child, but for his proper emotional development through parental guidance and reassurance.

The child who becomes ill—especially if stricken by a chronic illness—presents more psychological problems. Proper or improper use of hospitalization will determine the value of rehabilitative care; the doctor will recognize that hospitalization in itself causes anxiety not only to the parents but to the child himself. Such anxiety may result, not only in upset behavior on the child's part, but in prevention of successful diagnostic study.

Other normal “crises” in child development are the concern of the physician: the child's normal grief at bereavement, for instance, should a parent die, or be lost to him through divorce or separation, and the child's concern when an important family member becomes physically or mentally ill. On the somatic side is the delirium of a child suffering fever or as the result of drugs. Nor must the prophylaxis of communicable diseases be overlooked, especially against those that may effect the central nervous system. Physicians too often neglect the continuation of such preventive medicine when the child is over five.

More specifically, the general physician will readily recognize those signs and symptoms in children which may indicate the onset of severe mental illness. Naturally, the first line of defense is service to the child and his family in his own home, but the second line comes within the school system; schools can be useful in performing early detection and case finding, and in rendering early service(5).

There is a widely held concept that attitudes at the top administrative levels of any organization tend to set the tone for other levels. The importance of the school administrator's own mental health in relation to that of his teachers and students is readily apparent.

The physician will find three obstacles

which must be overcome if he is to involve the school system in detection of psychological problems in children: 1. The lack of interest of some school health workers in the psychological aspects of childhood health problems. 2. The lack of training among those who do have an interest. 3. The fact that the school health worker cannot deal with psychological problems unless she has expert assistance.

Among supporting services which school and physician should be able to utilize are the public assistance programs. These agencies can offer much assistance to disturbed children who are able to remain at home, but who may need supplementary help from day-care, home-care, or day-hospital services, and for children who have no families, or at best, inadequate families, and who may need foster-family care, a group home, care in a therapeutically oriented institution, or care in a residential treatment center. It is hoped that the physician will realize the value to himself as well as to the agency and the community of his serving actively on the boards of child-focussed agencies. Through such service, he will become aware of the changing patterns of social needs and social care of children in his community. By thus assuming responsibility for health promotion in the social fields, he works indirectly for the improvement of the physical and mental health of the community's children.

The role of the physician in his capacity as a citizen requires him to exercise his citizenship responsibilities by becoming informed about the essential needs of his community, by serving on social and health agency boards, by taking part in community planning and action committees, and by acting as a volunteer advisor on health problems to public and voluntary services. As a member of his medical society he can urge his fellow-members to: 1. Set standards for medical aspects of health programs, including the mental health aspects, and then to work for their adoption; 2. Work actively with other responsible community groups towards the same end; and 3. Urge that research move forward into areas where knowledge is most urgently needed.

"Every medical act," says the World Health Expert Committee on Training of

Health Personnel, "provides an opportunity for useful education work . . . treatment of illness is recognized as only a part of the total professional responsibility of the physician. His responsibilities are considered to include also those educational interventions which will contribute to the application of preventive measures by the individuals and families whom he serves" (6).

It has been said: "Knowledge and understanding about mental health and mental illness are essential to the public. The general public needs accurate and current information if there is to be community responsibility for the mentally ill and community provisions for mental health."

Often the physician has an opportunity, not only to provide information to the community leaders, but to carry out some more general form of public education. To achieve the latter goal, he may effectively work through teachers, lawyers, judges, police officers, probation and parole officers, and the clergy. Other receptive groups will be newspaper and magazine editors and writers, and radio and television producers and writers. These groups exercise a very strong influence on the community, as do leaders of labor and management organizations. The third group is the general public, whose attitudes are shaped in many ways by the "leading groups" but who still need much individual attention, if we are to reach them at a level and in a way which is appropriate to their own needs—one might say on the level of their personal and family interests and concerns, as opposed to broader civic or community needs.

Throughout the world, the physician is a community leader. This gives him a unique opportunity to participate in local, regional and national affairs. If his contribution to improve the lives of all citizens is not narrowly defined, he has an opportunity to serve on school boards, city councils, various regional and national legislative bodies. When he attempts to educate, mold, and influence public opinion, his participation need not be confined to the speaker's podium. He may serve in any number of ways in church, luncheon groups, labor, commerce, fraternal, community, and other organizations.

As a legislator he can exert his influence to support colleges and universities with their various academic and professional schools; the public hospital system; the various welfare agencies interested in child and maternal health and welfare, the handicapped, the aging, the juvenile; and lend his support to an adequate salary structure which will ensure the continuing attraction of people of ability and outstanding caliber. Where a costly new medical school and related facilities are contemplated, he can provide expert medical opinion. In the area of improved care in the penal system, he can make certain that rehabilitative measures include the psycho-social aspects. He can ensure that laws dealing with mental disorder are medically humane and socially and psychologically sound.

As a physician and a citizen he can formulate well-thought-out research programs. The opportunities are limited only by man's ingenuity. They include genetics, physiology, chemistry, child development, anthropology, sociology, epidemiology, ecology, aging, social studies, and even the techniques of mental health promotion and administration, to say nothing of the obvious necessity for clinical research. These are but a very few of the horizons which are apparent to all of us; those who are more perceptive will see a good many others.

As for the public health physician, the World Health Organization declares:

The most important long term principle for future work of the World Health Organization in the fostering of mental health is the encouragement of the incorporation into public health work of the responsibility for promoting the mental as well as the physical health of the community (7).

Perhaps we might begin at the level of what has been described as "the appreciation of human problems in a human way." In general one would look for the means whereby the public health team can assume responsibility for promoting mental as well as physical health in the community, and to integrate these mental health activities with other health problems whenever possible. If medical officers in public health received as comprehensive a training in the principles of mental health and hygiene as

they do in physical health and hygiene, their contribution could be of top importance in improving the mental health of a community. But this is not yet the case. Nonetheless, the public health physician in a rural health unit, while he might well exclude treatment for the more serious psychiatric disorders, can make a significant contribution in terms of secondary prevention, including recognition and case-finding for referral or for psychiatric consultation. A psychiatrist should be available as both consultant and teacher in the local health unit, and perhaps the public health doctor's primary responsibility is to make this fact known to the planning authorities and to insist upon its implementation.

Few physicians take serious issue with the notion that each generalist must assume responsibility to achieve a degree of familiarity with basic psychiatric principles comparable to his familiarity in other branches of medicine. It is assumed that a specialist physician will have made every effort to acquire the same skills and knowledge of psychiatry as he has in all specialties other than his own. Hopefully, too, he would make a particular effort to understand as much as possible about the emotional and psychiatric components of those disorders peculiar to his own specialty.

Public health physicians have extraordinary opportunities in their work with infants, mothers, preschool children, and the aged. They should be sharply aware of the emotional problems involved in public health practice and appropriate knowledge of the special problems of mental health care. Because these persons are trained in the techniques and skills of public health and social medicine they have knowledge and techniques particularly applicable to the mental health field. There is urgent need for the education of public health workers in the field of mental disorder; in the principles of aftercare, rehabilitation and resettlement of patients in the community; and in the promotion of acceptable mental health practices, as well as the eradication of those factors which are considered inimicable to sound psychological development both for individuals and groups. If the public health administrator who is responsible for all aspects of the health of

the community is going to discharge this responsibility, he must be educated and trained to deal, not only with the prevention of disease, but also with the impact of social, economic, and emotional factors as they effect the individual and the community.

Some of the challenges which lie ahead for the physicians of the world have been eloquently outlined as follows(8) :

We have not been able to do our best for the mentally ill to date, nor have we been able to make it wholly clear what kept us from doing so. Attempts to provide more humane care for the mentally ill and transform insane asylums into hospitals and clinics true to the healing purpose of medicine have occurred periodically during the last two centuries. While each reform appears to have gained sufficient ground to give its supporters some sense of progress, each has been rather quickly followed by backsliding, loss of professional momentum, and public indifference.

Even if we can find the road to a substantial reduction in the human and economic problems of mental illness, we are obliged to remain in full view of certain intervening observations that provide little cause for hope except as we can dispose of them. We must note, for instance, the curious blindness of the public as a whole and of psychiatry itself to what in reality would be required to fulfill the well publicized demand that millions of mentally ill shall have sufficient help in overcoming the disturbances which disturb their self-respect and usefulness.

Further, we must rise above our self-preservative functions as members of different

professions, social classes, and economic philosophies, and illuminate the means of working together out of mutual respect for our fellow man. We each have a responsibility that is common to all—our responsibility as citizens of a democratic nation founded out of faith in the uniqueness, integrity, and dignity of human life.

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MOTIVATION AND ABILITY TO MOVE¹

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The relationship between the function of the "extrapyramidal" motor system (particularly the corpus striatum and the thalamus) and the behavioral manifestations of "alertness" and "attention" as well as "movement readiness" have been of considerable interest to neurophysiologists over the past several years. Stimulation and ablation studies in this system have produced hypo- and hyperkinetic states as well as changes in sensorium from hyper-alertness to sleep (1-4). Buchwald(5) has demonstrated the relationship between the inhibition of learning and/or performance produced by activation of what he calls the "caudate loop" associated with EEG spindling and general drowsiness and inactivity. He has shown this system to be antagonistic to the arousal and motor facilitatory system of Moruzzi and Magoun(6).

In addition to the interesting neurological-behavioral issues that these studies stimulate, a possible relationship is suggested between what might subjectively be described as "attentiveness" or "alertness," and an organism's motor activity level. Probably all of us, at one time or another, have subjectively confirmed such a relationship in ourselves. It was with this general orientation that we approached the study and treatment of a group of patients manifesting parkinson's syndrome. This patient group appears to be a good one with which to study the relationship between subjective mood state and motoric activity because, as in most pathological conditions, the relationship appears to be quite exaggerated.

It has long been known that, in addition to the problems of localized tremor and rigidity, parkinson patients may manifest a

more global dysfunction which has been called "akinesia"(7) either relatively alone or in combination with the other symptoms. It is a rather difficult dysfunction to characterize, but generally it indicates the decreased capacity to initiate and carry out volitional motor acts as well as a reduction in automatic and associative movements. Mettler(8) feels this impairment generalizes into all fields of psychic and psychomotor functioning describing this patient group as "rigid, inaccessible and depressed." Along the same lines, Jacobson(9) reports 2 cases of manic-depressive psychosis with parkinsonism whose neurological symptoms, especially akinesia and rigidity, disappeared during the manic phase and returned during their depressed episodes. Boardman and Fullerton(10) found that phenothiazine-induced parkinsonism in their patients was associated with dejection, hopelessness, and apathetic inertia. They felt that the picture was undifferentiable from "endogenous depression." What is interesting is that with double-blind treatment with antiparkinson agents, the patients showed, in addition to the clearing of the parkinson picture, a renewal of interest with increases in activity and initiative.

It is the purpose of this paper to demonstrate further the relationship between the akinetic and rigid neurological features of parkinson's syndrome and mood state and the concomitant alleviation of these problems with an antidepressant, imipramine chloride. This particular antidepressant was chosen for several reasons: 1. It has been an effective drug clinically in our experience, particularly with endogenous depression; 2. In lower dosages in animals, it has been demonstrated to cause an increase in frequency in the EEG (the "arousal" pattern)(11), a condition which is consistent with the activation of the system which has been shown by Buchwald(5) to be antagonistic to the inhibitory system; 3. As an adrenergic potentiator (at least peripherally)(12), it may also be considered a

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potential activator of the arousal system (13) and again antagonistic to this inhibitory system.

Methods. A group of 42 parkinson patients from the Neurological Clinic of the Neuropsychiatric Institute were studied. The pilot group of 7 was selected for refractoriness to other medication, the next 35 were unselected, consecutively appearing patients. The patients received an MMPI and Leary Interpersonal check list for psychological evaluation, a physical therapy check list consisting of 106 items relevant to self-care and motor functioning in their environment, a complete neurological examination, a brief psychiatric evaluation focused on subjective mood state, and a base line rapidly alternating movement task for 30 seconds in both hands. The patients were then followed with psychiatric and neurological exams on a once to four times per month basis during and after the trial of drug or placebo. After a suitable trial (usually 6 to 8 weeks) the entire battery was repeated; those that responded were continued on the medication and followed for up to 16 months. The drug was added without departing from the regimen the patients were following at the time. Twenty patients were studied with-

out, 22 with double-blind control. The drug or placebo was used with the following dosage schedule: 100 mg. a day for the first week, 150 mg. for the second week, 200 mg. during the third week; some patients were placed on 250 mg. The data reported here will be exclusively from the double-blind studied group, though the findings are consistent with our pilot findings reported previously (14). The data were analyzed graphically and statistically using conventional techniques of correlation and rank order correlation of pertinent scales on the psychological tests, the activities check list, and the timed alternating movement.

Results. The patients with parkinsonism appeared to be significantly more depressed clinically than a normal group. The MMPI depression scales were considerably higher than those reported for patients with slow-growing cancer by Blumberg (15). This would tend to indicate that reaction to an illness, per se, may be contributory to the depression picture, but not necessarily the entire explanation. In addition, there appeared to be a relationship between the amount of apparent subjective depression and apathy and the patient's ability to function as reflected both on the neurological examination and the clinical history.

FIGURE 1
DEPRESSION AND MOTOR MOVEMENT

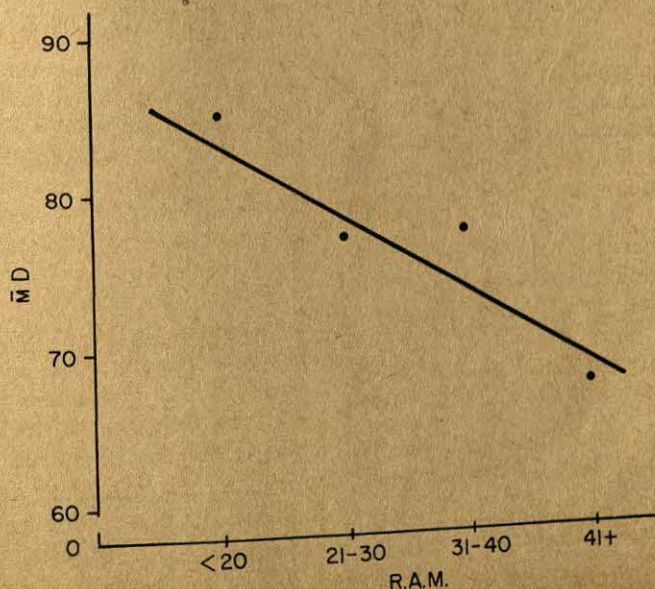


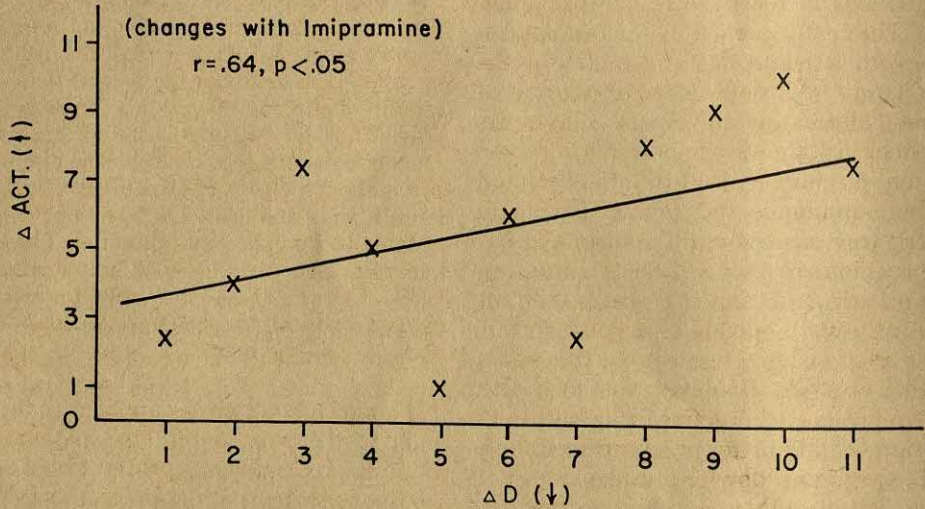
Figure 1 shows the relationship between score on the depression scale and number of rapidly alternating movements done in a 30-second timed interval on all the parkinson's patients at the time of the initial evaluation. It is apparent that the higher the

reflected in the relationship between the changes with imipramine treatment in the D scale in the MMPI and the number of items checked as "capable of" on the Physical Therapy Check List.

Figure 2 demonstrates that as the depres-

FIGURE 2

RANK ORDER CORRELATION-DEPRESSION AND ACTIVITY



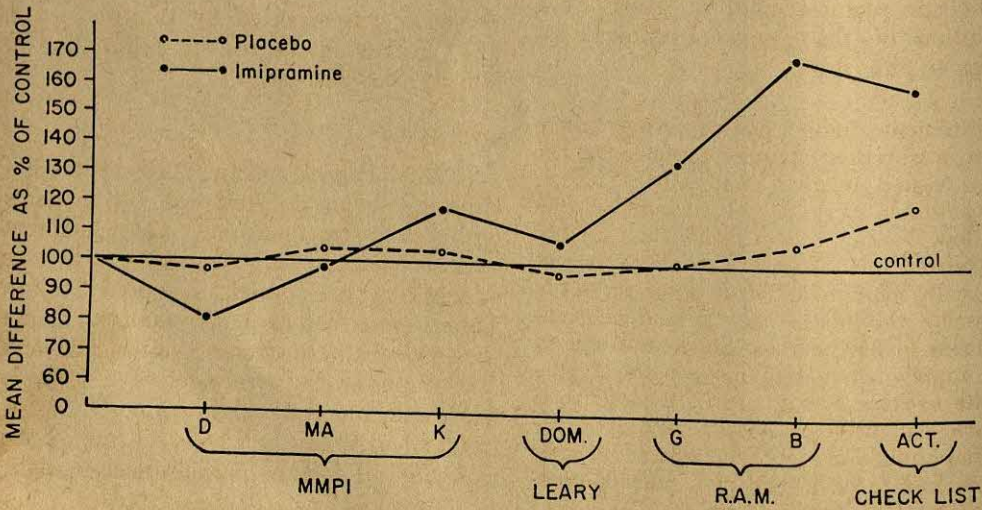
depression the lower the number of movements (and vice versa). The same relationship between mood and motor activity was

sion goes down the number of activities goes up.

Figure 3 is a summary picture of the

FIGURE 3

DOUBLE BLIND DRUG TREATMENT - PARKINSON'S SYNDROME



effect of imipramine compared with placebo under double-blind conditions. The placebo has a mild ameliorating effect on the depression which is represented by the MMPI D score; it increases the MA scale, felt by some to represent reflection of general energy level; and an increase in the K scale which has been used by some investigators as a reflection of adaptive functioning or ego strength. Accompanying these small psychological changes is a mild decrease in the dominance variable on the Leary scale which is said to reflect interpersonal dominance. The better hand ("G") does not improve with placebo, but interestingly the worse hand ("B") does improve in terms of the timed alternating movements. The activities check list shows a moderate improvement on placebo. Aring(16) has pointed out the importance of placebo effects in the drug treatment of parkinsonism and has made a comment that 70% of patients improve on any drug and that drugs will not consistently work outside of a good doctor-patient relationship. Here we see the placebo effect at work. However, the solid line which represents the active drug seems to work significantly better in most dimensions. The D score goes down; the MA does not change significantly; the K ego-strength scale goes up more, the person becomes more dominant; the good hand improves on timed alternating movements; the bad hand improves even more on timed alternating movements; and the amount of self-care and work activities significantly increases.

A holistic picture might be given by a description of the range of clinical responses to this drug.

The extremely stable, non-depressed school teacher was retired, but kept active in her garden, visited relatives, and busied herself with charitable works in the community. She had a low D score, tremor rather than rigidity characterized her illness, and she was not functionally too debilitated. In response to the imipramine she made only a moderate improvement in her neurological picture and in timed rapidly alternating movements. At the opposite extreme is a group of 9 patients, 8 of whom had been considered candidates for custodial hospital care by their relatives. Seven of them had to have care of a nursing type.

They could not dress, cook or keep themselves clean. Severe rigidity and akinesia rather than tremor characterized this group. These patients were quite severely depressed and, in general, out of contact with their environment in an adaptive sense. They all manifested high D scores on the MMPI. They were irritable, could not make decisions, and were a burden on their relatives. They had great difficulty in starting, stopping, turning and in performing repeated or fine movement, arising from a chair, and occasionally had trouble in swallowing and talking. Eight of these 9 patients, following about 3 weeks of imipramine chloride, manifested considerable all-over functioning improvement. Relatives called the change "a miracle." The ability of the patient to do timed rapidly alternating movements improved markedly. They all began to care for themselves. Only one patient required someone else to help her, although she was able to feed and dress herself, walk and cook. Only one of this group eventually wound up in a hospital. Three men had not been able to work for a couple of years. One of these was able to return to paying work and two began to do considerable work around the house.

Tremor tended most consistently to characterize the least debilitated patients and akinesia and rigidity appeared to characterize the most depressed, the least mobile and poorly functioning group. It is this latter group who were most aided by imipramine.

An interesting incidental observation was that as rigidity lessened and functioning improved, frequently tremor became more marked. Conventional antiparkinson agents were added to the regime in order to control this when it occurred. A similar phenomenon was reported by Whittier, *et al.* (17), following the use of imipramine in Huntington's disease.

DISCUSSION

In 1922, Patrick and Levy(18) reported a clinical psychiatric study of 146 patients with parkinson syndrome. They felt that over 1/3 manifested depressive reactions which they considered of serious import. They report that as many occurred before the onset of the syndrome as after. Schwartz (19) reported the treatment of a severely depressed, suicidal parkinsonian with a prefrontal leukotomy in which the depression was relieved and the parkinsonism marked-

ly improved. The feeling of some workers is that life experiences and personality characteristics producing depression (such as a loss) lead to a decompensation of defenses and the emergence of signs of the underlying organic disorder. Riklan, *et al.* (20), have characterized the depressive-like decompensation of the parkinsonians as being a reaction to the impact of an activity-constricting disease.

The recent neurophysiological demonstration of a learning and movement inhibitory system in the corpus striatum and thalamus that produces drowsiness and sleep as well as the demonstration that the phenothiazines that produce parkinson's syndrome also produce depression and that both are reversible using antiparkinson drugs leads us to interpret our data in a different way.

It is our feeling that many features of depression including apathy, inertia, failure in functioning, and slowness of movement are a reflection of the malfunction of the extrapyramidal motor system and are concomitants of the akinetic and rigid features of the parkinson syndrome. The relationship between depression and neurological and adaptive functioning as demonstrated in this study we feel (though not proof) is at least consistent with this hypothesis. The concomitant reversal of the multiple clinical features noted above with the use of an antidepressant drug which is thought to be a stimulant to the arousal-motor facilitory system (and antagonistic to the striatal-thalamic inhibitory system) appears additional evidence in favor of such a hypothesis.

The general relationship between motoric "doing" and mood, which has been discussed using a neurophysiological model, has been described and documented using a dynamic model in a recent paper by D. A. Schwartz (21). He has shown that many depressions begin concurrently with the loss of the capacity to function: a decompensation of the "doing defense." As the depression remits, the "doing" function and the mood appear to improve concomitantly. We may both be describing the same phenomenon with different theory and data language.

This system appears manipulatable both

psychologically (as indicated by the placebo response in our study as well as in others) and pharmacologically. The therapeutic implications of this study in no way supercede the use of other, more classical drugs or the operative procedures for tremor and rigidity, but appear to suggest a valuable adjunct in treating the global functioning defect in patients with parkinson's syndrome. This study may have implications for a neurophysiologic theory of depression.

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DISCUSSION

Lothar B. Kalinowsky, M.D. (New York, N. Y.).—The authors originally titled their paper "Relationship between Psychiatric and Neurological Features in Parkinson Rigidity." It was this challenging attempt to correlate psychiatric and neurological manifestations which encouraged me to discuss this paper, and which probably gave the Program Committee the idea to ask me to discuss it. However, it is difficult to say to what extent this very interesting study actually contributes to the question inherent in the present title "Motivation and Ability to Move."

There is a large literature on the neurological side effects, or better concomitants, of neuroleptic drugs and their therapeutic effect on psychiatric symptoms. Applying such methods as the testing of handwriting it could be shown by Haase that probably all patients under neuroleptic drugs show increasing micrographia; and this includes patients who do not show or do not yet show parkinsonian symptoms of a more definite nature. Another symptom showing the relationship between psychiatric and neurological manifestations is the neuropsychiatric syndrome described as "akinetic aboulie state." Its main symptoms are a diminished drive and a more complacent attitude. This syndrome is often a precursor of a parkinsonian state, but it should be pointed out that it does not contain the depressive mood which the authors of the present study consider as an essential symptom of parkinson's disease.

Do the observations of psychomotor changes have a parallel in the effect of antidepressant drugs? The authors make a valiant effort to establish such effect. They have succeeded in collecting good and thought-provoking observations, even though the interpretation of their findings can be manifold. We cannot agree with Boardman and Fullerton whom the authors quote as stating that the parkinsonian syndrome due to neuroleptic drugs has depressive features indistinguishable from an endogenous depression. Furthermore, the depressive mood of some, but by no means of all, patients with parkinson's disease is certainly not identical with an endogenous depression. The authors' observation that imipramine, which has been called a psychic energizer, has a favorable effect on the total psychiatric-neurological symptomatology of parkinson's

disease is very valuable. Their case material is quite convincing, and in accordance with my own belief that antidepressant drugs are particularly valuable in atypical depressions, more so than in endogenous depressions; and I am inclined to list depressions in parkinson patients among the atypical depressions.

Removal of the depressive features in parkinson's disease has been seen by H. Strauss and many others, and akinesia was noticed to improve by Sigwald, *et al.* The authors' observations should encourage wider use of imipramine in similar cases. The depression in parkinson's disease, however, is far less frequent than akinesia, and it remains questionable whether akinesia and depression are actually related and expression of the same motor function. It is something entirely different, when a true depression in a parkinson patient clears up under antidepressant drugs, or, as we have seen in a fairly large number of cases, with ECT. It is true that in such patients removal of the depression also improves neurological function. The parkinsonian symptoms become worse, and the patient more rigid and often bedridden, when he develops a depression. He becomes mobile again when the depression improves. However, the same was seen in patients with paranoid psychotic episodes without depression. Furthermore, this effect on neurological functions is not limited to diseases of the basal ganglia. Other neurological symptoms such as hemiplegia are influenced in the same way during psychotic episodes.

Observations of this kind make it doubtful whether the authors' interesting studies can be used as evidence of a specific effect of antidepressant drugs as stimulating the arousal-motor facilitatory system as opposed to the striatal-thalamic inhibitory system. In a similar study Haase, who emphasized the direct effect of neuroleptic drugs on psychomotility, considers the effect of antidepressants on psychomotility as more indirect; he sees the psychomotor change as a consequence rather than the cause of the removal of depression.

The authors call their conclusions still unproven, but this does not diminish the value of the observations presented. I particularly regret this conclusion because it is my strong belief that a neurological approach to many psychiatric problems is most promising, and that it is being too much neglected by present day research. It is for this reason that I consider the authors' investigations a most valuable contribution.

THE JOINT COMMISSION REPORT ON MENTAL ILLNESS AND HEALTH: IMPLICATIONS FOR NURSING ADMINISTRATION

ANNIE LAURIE CRAWFORD, R.N., M.Ed.¹

The report has identified three problem areas: *Manpower*; *Facilities*; and *Costs*. These are problems common to many programs, with some special dimensions for programs dealing with mental illness and health.

Recommendations providing a suggested blueprint for action are offered under three major headings: *Pursuit of New Knowledge*; *Better Use of Present Knowledge and Experience*; and *Cost*. The report is an impressive document with implications for nursing which usually challenge but sometimes dismay.

The problems identified by the Joint Commission are known to every nurse administrator. The extent to which the nurse administrator can meet the challenge of the recommendations by finding new and better ways of dealing with the problems will determine the effectiveness, to a significant degree, of the nursing profession in this as in other health programs.

The first task of the nurse administrator is to assure herself and her staff at least a potentially friendly climate for practice. The nature of the professional nurse's role and function in mental health and the care of mentally ill patients is not as clearly understood nor is it at all times as sharply defined as it is in many other health promoting and conserving programs. The direct or indirect effect of policies and decisions of numerous governmental agencies and units, such as the budget bureau, the Civil Service System, the institution or agency personnel officer, and others, on the climate for professional practice cannot be ignored. This is equally true in many instances for her professional organizations. She cannot assume, even when the evidence seems fairly conclusive, that people lack understanding (which they may) or wish to deliberately hamper her. While she may not, because of the administrative structure of the agency, have any face-to-face con-

tact with the budget bureau director her knowledge of the processes can help her clear shoals when dealing with her immediate supervisor. In her communications with her professional organizations she must be prepared to defend objectively and expertly her conviction that certain of the organization activities support while others hamper her administrative efforts to provide optimum nursing care for patients.

Next, it is necessary to consider the objectives of the nursing service. Are these clearly defined and available in a concise, realistic, understandable, and *stimulating statement*, and apparent in the *working environment* of every nursing unit in the hospital and in the community nursing agency? How competent in the nursing care of mentally ill patients, support to the family with mental health problems, and as a participant in preventive mental health programs is the nurse administrator? This is a vital question, particularly to directors of general hospital nursing services acquiring psychiatric inpatient units and to directors of public health and community nursing services, where an agency assumes family supportive and patient follow-up service.

The problem of *manpower*, of persons who seek out opportunities to nurse the mentally ill, has been with us since the first human being became mad. Since it is apparent that workers in the field of mental illness and mental health have been beset or immobilized by manpower shortages even when there was a surplus of people wanting jobs, the current widespread manpower shortage should do little to comfort us. It may be that national attention to the needs in our field will finally mobilize more creativity and industry in dealing with it. However, there would seem to be a serious question about whether we may not be required to shift gears hurriedly to more careful selection and more effective and realistic training because of a flood of young workers, and an increase of older women, in the labor market. (The Bureau

¹ Florida State Board of Health, Jacksonville, Fla.

of Labor Statistics reports that we will absorb 29 million additional workers by 1970—most of them youths and older women.) There is already some evidence that some of these are nurses—and that others will be preparing for nursing in community colleges.

Large numbers of potential workers for this field were ignored in the 1930's. Nurses, most of whom had no training in psychiatric nursing, made the rounds of hospitals looking for work or sat by silent telephones awaiting calls for private duty, while thousands of mentally ill patients sat on dingy hospital wards, many of them tied into straight jackets, and from week to week did not even see a professional nurse. Even then some voices were raised, May Kennedy's, and your speaker often brought this question up at meetings. We believed then that it would have been possible to interest state hospital superintendents and the nurses in a cooperative effort to have hospitals offer housing and maintenance and plan educational programs useful to the nurses. If we reflect on the role of nursing in the development and expansion and in the excellence of general hospital patient care we can reasonably speculate that the Commission Report might be telling a somewhat different story if nurse leadership could have been mobilized then. We know that public health nursing expanded and became a tremendous force for health during that period, often through installation of community nursing services under WPA. With this second opportunity to assume aggressive leadership in providing a decent standard of nursing care for the mentally ill psychiatric nurses dare not fail to do so.

The manpower we need, and during the decade ahead will have a chance to get, will require the opportunity and tools to promote programs designed to prevent mental illness (with measurable results), to restore the mentally ill person to a healthy state, and to participate in rehabilitation which makes the person who has been sick a functioning member of society. The prestige and the remuneration which doing important work deserves will also be expected.

Nursing administration must recognize the enormous importance of volunteers, e.g.,

both the community worker and the summer college student for direct service to patients and for recruitment of workers. The patient's environmental climate is primarily the business of nursing. The psychiatric nurse in the mental health clinic, the public health nurse in the community, and the psychiatric nurse on the hospital ward, individually and collectively, have opportunity to promote immediate and long range goals for nursing service through productive contact with volunteers. These are the citizens of today and tomorrow whose knowledge of and tolerance for the ex-patient may mark the difference in whether he can survive at home during a crisis (for which the clinic is best equipped to help) or, following brief general hospital or extensive state hospital treatment, can return to a welcoming, not a rejecting family and neighborhood.

In addition to regular orientation, instruction, and guidance for volunteers, nurses can conduct classes for other community groups (*Mental Hygiene* classes taught in the evening by the director of nursing were attended by stenographers, beauticians, saleswomen and others, in Idaho, early in the 1940's). Florida psychiatric and public health nurses, employed by county health departments, are meeting regularly with relatives of hospitalized mentally ill patients, with the focus on understanding, tolerating and setting limits when a relative returns from hospitalization.

The Commission has said that we must pursue *new knowledge*. The nurse administrator must prepare and support her staff so that they too, no matter how busy, *tolerate and encourage* thinkers in their ranks. One of the characteristics which sets the nurse apart, not only to the public, but to herself, is that of being a *doer*. The public health nurse has perhaps reached a higher level of achievement in allowing for thinking, but she too is sometimes shaken by the "be you a talking nurse or a doing nurse" question.

The report speaks of venture or risk capital; the nurse administrator will need to indulge in a good deal of venture or risk policy and procedure—even to make better use of present knowledge and experience. This will take courage, and the willingness

to admit that the unworkable is, or for the time and place at least appears to be, unworkable. We have come a long way in recognizing the right and the *responsibility* of the physically ill person to participate freely in his own recovery process. We have not come even the first mile in many places toward allowing the mentally ill patient this right, nor preparing, even pushing him toward this responsibility. I do not believe that nurses should assume full credit for the *status quo*—we have distinguished friends and co-workers who share our failure to act. Let us be bold and imaginative now, and thus demonstrate that we have come of age professionally.

Nurse administrators will be expected in the *pursuit of new knowledge* and in the *better use of present knowledge and experience* to provide for more visible collaborative effort, in achieving and maintaining a healthy person and family, between the psychiatric nurse and the public health nurse, and among these nurses and others of the investigative and treatment groups (psychiatrists, public health physicians, behavioral scientists, and others).

The report suggests that we place more emphasis on the obvious that patients with major mental illnesses are different in significant ways from the physically ill. Almost everyone is aware that the mentally ill patient may at times behave impulsively and irresponsibly. This is not, I am sure, what the Commission is referring to. I would endorse wholeheartedly the suggestion that we give more thoughtful attention to the significant differences and to the similarities particularly in the orientation and training of students and new staff. Nursing administrators need to be sensitive to responses of staff members to, or even the stimulating of, bizarre behavior on the part of the patient. The manic is often charming—the paranoid patient a trouble maker, a convincing fabricator.

The diagnostic procedure and the planning of treatment for the mentally ill patient, in clinic or hospital (large state, small private, and to some extent in general hospital units) is one area where staff needs to understand certain differences clearly in order to participate appropriately in the

“team or multidisciplinary approach.”

Even as we emphasize differences we also need to be sure that the young staff nurse with traditional training is aware that there are some basic similarities between this and the approach which she daily experiences on the medical or surgical ward—the Lab report, the pathologist's findings, the result of x-ray reading, *etc.* This is a multidisciplinary approach but the emphasis for this “team” for whom the physician is undisputed captain is on presenting certain specifically confirmed information to the captain so that he can make a diagnosis and prescribe treatment.

In the case of the mentally ill patient, physicians, nurses, social workers, psychologists, occupational and recreational workers, aides and attendants sit around the table disclosing and discussing the most intimate aspects of the patient's life experience and relationships. Sometimes I have wondered a bit uncomfortably about how one could really distinguish a certain “staffing of a patient” from a general gossip session. I do not wish to imply that the staffing approach is inappropriate, but to emphasize the difference which I believe we must consciously prepare personnel to recognize and make use of in appropriate ways. We have at times emphasized the need for extensive information as a requisite for providing nursing to the point where nursing instructors and students feel frustrated and thwarted when the hospital's policy limits access to social and family history data and the psychiatrist refuses to sit down and discuss his patient with them. Until we have conclusive evidence that extensive information *gathered by others* about the patient facilitates nursing care success, we are on extremely tenuous ground when we demand this as an essential to demonstrate our nursing skills.

The nurse administrator might take the lead in planning staff conferences through which the nurse shares with her peers and co-workers what *she* has learned about a patient and how she has used this information to facilitate a nursing care plan which is contributing to the promotion and restoration of health for the patient or is helping him and his family to learn more effective ways of dealing with crises.

Considering yet another dimension, members of the nursing staff need to consider the economic and social significance that confining all diabetics or heart disease victims in large barn-like institutions would have, and in so doing be challenged to find ways to help the mentally ill patient return to the community as a functioning member of society. Thus we avoid the immobilizing effect of professional preoccupation with "curing" which is sometimes more of an unrealistic attempt to make the patient into someone we like than a realistic plan to help him mobilize his resources to deal with his environment in an acceptable way. Humane treatment is not necessarily incompatible with coaxing, pushing (even shoving a little) a patient toward self responsibility.

One of the more obvious places where nursing can begin is in providing patients with an opportunity to behave and work responsibly while in hospital. As an example of this we might ask how much latent energy for nursing is sitting idly about the wards of many state hospitals. How many physically healthy schizophrenic women could and would profit by the assumption on the part of the nursing administration that they too, at some time in their lives wanted to "nurse the sick." There are literally thousands of these women doing this work now—errand girls and aides on infirmary wards—and we can add a new approach for the already productive, working patient by taking steps to help her see her work as an ingredient of her health potential. She needs to view her work as a step toward becoming a functioning member of society rather than as a pass to a few state hospital privileges.

Many can be trained by nurse supervisors and instructors, and made to feel that they are accepted and respected enough to be accorded status and trust. This does not imply *unsupervised responsibility* for the well being of fellow patients. We might begin with lightly supervised or unsupervised responsibility for self, by providing living quarters where the duty and the freedom to report for work is given. Let this be the base on which assignment to nurse's aide work is established. This would make sense to the patient, and provide for her some

sense of orderliness in progression to healthy activity.

The nursing aide is only one of many illustrations of steps toward responsible achievement the patient can and should take in the hospital. Of all personnel, nurses are in the most strategic position to assess the patient's readiness to and interest in going forth into a life of productivity. Nurses must assume more professional responsibility for bringing these observations to the psychiatrist.

The opportunity for innovation, for experimentation, and for creative action in planning for and providing nursing care available to the psychiatric nurse has always been its greatest appeal to me as a field of practice. To make credible this difference, and to provide the atmosphere for creative practice, is the ultimate in administration of nursing services to the mentally ill. I believe this is in keeping with the Commission Report implications in its recommendation that we make better use of existing knowledge and experience.

As an immediate and long range response to the Commission Report I believe that nursing administrators in state mental hospitals should immediately assume aggressive leadership in requiring an acceptable level of preparation for all workers through pre-service, in-service and on-the-job training programs. The nursing administrator is the only person who can effectively demand and assume responsibility for requiring trained workers. This is only valid, however, if she has a plan. She will need to know what resources she can use, whether she can request assistance from vocational education, community colleges, and the extension service of the university. Many nurse administrators could begin by requiring that all schools of nursing sending students for instruction and clinical experience provide a faculty in this as in other clinical areas. Faculty members employed by the state hospital could then be released to instruct employed personnel, many of whom are at this time untrained workers assigned and paid to nurse the mentally ill.

The nurse administrator in the general hospital with a psychiatric unit or service often faces two inappropriate choices. If she can get a specialist she must often pay her

a higher salary than she does other supervisors, adding to internal stresses, or she cannot find a specialist available and must therefore select from her staff the best equipped person. In this situation she needs easy access to consultation, and an opportunity for some on-the-job training for the nurse selected. In Florida, nurse administrators have both resources available. Consultation is available in some areas through the county health department if the mental health worker is a psychiatric nurse, in others through the State Board of Health training and research program. On-the-job training is available in the psychiatric unit of the university hospital. (If the director of nursing has had no prior preparation in psychiatric nursing she should be the first to seek the on-the-job training.) It would seem that the specialist, when available, might best be used as a general nursing service supervisor, thus making her special skills available to all nursing service units.

In all types of facilities the nurse administrator should have specialist staff available to intensive care units so that the newly admitted patient can be continuously attended during the first days, or through crises. The modern general hospital considers an intensive care unit for medicine and surgery a necessity—expensively equipped, and staffed with expert nurses. The psychiatric patient does not usually need the expensive equipment, but is in equally urgent need of the expert nursing care if recovery and rehabilitation is to be assured.

In the Commission's discussion of facilities many areas have direct and far reaching implications for nursing administration. The suggestion was made that large state mental hospitals be converted to multi-purpose chronic disease hospitals, with more nurses, occupational therapists and

aides, and fewer psychiatrists. Is it to be expected that people, even chronically ill ones, will willingly submit to this type of isolation? What of the nurses and aides? There are hundreds of unfilled budgeted positions for professional nurses in isolated state mental hospitals now. There are few nurse positions unfilled in either general hospital or in mental health in public health. Outpatient departments and mental health clinics have too few psychiatric nurses, but this is because there are as yet few positions available to psychiatric nurses in these facilities.

I will only comment briefly on the *cost*, and not at all in terms of the cost of patient care as presently defined in all reports. Hospital insurance plans are constantly expanding, so today's figures are out-of-date tomorrow. I believe the nursing profession should put emphasis on the use of money where it seems most relevant—in recruiting, training and employing the nurses who will contribute significantly to abandonment of the need for large chronic disease institutions. We need particularly to expand our efforts in community nursing programs; we need to recruit talented youth and to strengthen preparation in psychiatric and public health nursing. In collaboration with psychiatric nurses, public health nurses can assume more responsibility in promotion of health, in prevention, in early case finding and referral, in support to individuals and families in time of crisis, and in support to the mentally ill patient who can manage at home on the job with this support. We need *enough* highly skilled psychiatric nurses to give direct care to patients when needed, and to instruct and supervise less skilled nursing personnel so that the patient is assured effective nursing care.

A RESEARCH PROJECT IN PSYCHIATRIC AIDE TRAINING¹

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The shortage of personnel in mental hospitals is well documented. These shortages are especially acute in the ranks of professional personnel but less so in the ranks of psychiatric aides. Most direct care, therefore, falls to the relatively unskilled aide. On many chronic units, these employees carry almost total responsibility. It is apparent that professional ranks will not be expanded with any great speed. It has been often proposed, therefore, that the psychiatric aide could be utilized more effectively if he were trained. There have been many programs designed to accomplish this purpose but none has proved widely applicable nor has any been carefully studied as to efficacy. To be useful to many, a program should be of fairly short duration, not require a specific educational background and be so structured as to be applicable to a variety of situations. In view of the fact that formal didactic programs usually meet with limited success, a program should not rely solely upon this method of teaching. The program should also be evaluated to determine its usefulness.

In view of the above problems, a program was designed with an emphasis on learning through doing and on favorably influencing aide attitudes towards patient care. It was felt that an approach through on-the-job training would be most satisfactory since didactic programs, in general, have given disappointing results. It was also felt that aides would learn most through working directly with skilled professionals. It is generally accepted that superior aides have a favorable influence on those aides

with whom they work. It was therefore believed that these superior people should have a large role in the undertaking and could assume a fair amount of responsibility in the training of the lesser skilled employees.

In keeping with the idea of having a short program, a time limit of one year was set for the project. This year was divided into 3 periods of 4 months each. The total number of patients under the care of the research team was limited to 60 so that maximum time might be devoted to the problems of training. Obviously, in the time allotted little of a specific nature could be communicated and, indeed, it was not the purpose of the project to transmit "knowledge." Rather, it was the intention to influence attitudes of aides toward patients. It was hoped that custodial approaches might give way to more humanistic techniques of dealing with patients. The essence of the program, then, consisted of attempts to make attitude changes in a small number of trainees in 4 months through the direct action of the research team and charge (or superior) aides.

In order to judge the effectiveness of the program, a control group was selected and subjected to the same measuring devices as the experimental group. The same selection factors were used for experimental and control groups. The only difference was that the controls continued their regular hospital assignments without interference from the research staff.

Method of Project Operation. The subjects selected for the project included those employees assigned to the nursing service except for registered nurses and those nursing service personnel assigned to non-clinical duties (barbers, beauticians, linen room workers, etc.). Also excluded were employees who would be lost to follow-up in the near future due to such things as retirement, forthcoming resignation or pregnancy. Well over 100 subjects were selected for study but a variety of factors over a

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period of time resulted in a final sample of 79 including both experimental and control groups. Superior aides, selected by the director of the nursing service, were placed in charge positions.

The training setting consisted of a 60-bed two-story building housing 30 women upstairs and 30 men downstairs. The patient population included a fairly representative sample of the chronic population with the exception that some severe administrative problems, particularly escape and severe alcoholic problems, were excluded. The average hospital stay for the male patients was 17.98 years with a range from 1 year and 1 month to 34 years and 3 months. The average hospital stay for the female patients was 9.48 years with a range of 1 year and 11 months to 20 years and 1 month. Only 6 of the patients had been in the hospital less than 2 years. The hospital itself is a state hospital of some 2700 beds within a metropolitan area. The project staff consisted of the director psychiatrist, psychiatric nurse, occupational therapist, corrective therapist and psychologist, all of whom maintained offices within the building.

The physical arrangement permitted the assignment of 2 superior aides to the female unit and 2 to the male unit both morning and afternoon. In addition to these personnel were the trainees which consisted of 4 assigned to the men and 4 assigned to the women on both morning and afternoon shifts. The building was, therefore, more than adequately staffed for a chronic building with 6 attendants on each floor morning and afternoon. This relatively large number of employees, however, posed some particular problems.

Objective and subjective measures were taken on all subjects. The subjective measures included an Opinionaire which incorporated the Custodial Mental Illness Ideology Index(1), authoritarianism scales, self-deception scales, and self-esteem scales. In addition, the aide performance evaluation scale and aide-patient interaction scales of Ellsworth(2, 3) were also used. A separate Job Satisfaction Inventory devised by us was an attempt to clarify further custodial versus humanistic ideation in relation to patient care. All of these measures were given

prior to assignment to the unit, again at the end of 4 months (upon leaving the unit) and finally some 5 months after the end of the training period. Three sets of measures were then available on each subject. In addition, the experimental subjects were further studied with MMPIs.

The teaching program particularly emphasized the physical presence of the research staff on the ward itself. Except for the very late evening hours, one of the project staff was always available for assistance with problems or for individual contact with aides. In addition, the superior aides were always available. Twice each week for each shift, clinical meetings were held with the emphasis on discussing patient problems which the aides presented. Some attempt was also made during these meetings to provide some didactic or background material where appropriate but almost invariably this was not very successful. Each staff member was also assigned the responsibility of maintaining regular individual contacts with specific aides during their period on the research unit. Once each week, the aides had a group meeting with the focus on group problems rather than on patient problems. The occupational therapist had a regular weekly meeting with the aides to go over various programs and techniques. The corrective therapist worked intimately with the aides on various recreational projects. A number of patient group meetings were held on a regular basis and where possible the aides were encouraged and helped to assume group leadership responsibilities.

There was nothing unique about the teaching program itself. The prime emphasis was on providing an intensive experience with professionals for a 4-month period. The only thing that we felt was somewhat different was the encouragement of aide led ward meetings.

Problems During Project Operation. During various phases of the operation of the program, a number of problems arose. The first and most difficult was the resistance to change within the hospital structure. This was reflected in many areas. Physicians had some tendency to obstruct the program by not providing patients as requested and sometimes providing patients who were grossly unsuited to the program. They also,

at times, interfered with the easy transfer of an aide feeling that the individual was indispensable. Nurses, and particularly those in supervisory positions, were often reluctant to release aides from the unit and found a number of ways of preventing a rapid and smooth transfer. The aides themselves found innumerable objections to change. The particular hospital in which the project was carried out is, in many respects, a fairly progressive state hospital. In view of this, we were surprised to find a great degree of resistance to change which was directly opposed to the prevailing progressive philosophy of operation.

The resistance to change within the hospital is in itself a fascinating phenomenon but in our project nothing occurred which has not been previously described(4). There are a number of things, however, relating to the operation of the project which are of more particular interest. These have to do with the aide population itself.

Very early in the project, we discovered that our aides had great difficulty with abstract principles or dynamic concepts. It was particularly difficult for the aide to observe the same behavior in a variety of settings and formulate a patient's mode of operation outside of moralistic or judgmental concepts. To see, for example, that a patient's great need for attention or affection was motivated by something not immediately apparent was very difficult. The tendency was rather to take surface manifestations whether negative or positive and react to them directly. A patient seeking attention, for example, would either be given the attention or be rejected. It usually was the latter if the pattern was a frequent and pervasive one. There were, of course, some aides who did not respond to the patients directly but this seemed to be more a matter of familiarity with the patient rather than familiarity with the patient's problem or any dynamic understanding. The aide's failure to react would be described by the aide himself or by other aides as "oh, we know that patient" or "that patient is just that way" or "we're so used to him that he doesn't bother us anymore." The aide could not usually understand intellectually that a patient's cloying or obsequious behavior when couched in terms of attention seeking

and pleasant manipulative demands actually represented some underlying hostility. The aide, of course, would respond directly and immediately to the underlying hostility but had great trouble in seeing how the patient put the aide in a position to react. The social terms of good or bad were far more frequently used than we would have hoped or initially expected.

Another area of considerable difficulty was in limit setting. Limits could only be understood in terms of specific, concrete and sharply delimited administrative structure. On the other hand, flexible limits or less sharply defined limits or partial limits were seen as total lack of control. Especially during the early part of the project, aides seemed to operate on an all or none principle and had trouble comprehending the patient's inability to accept total responsibility for himself or his ability to accept only limited responsibility in some areas. The open door was seen early as overt permission for the patient to come and go entirely as he pleased. The aide felt impotent to intervene if a patient wanted to leave the unit inappropriately. In the early phase of operation, great difficulty was experienced in getting patients to bathe regularly or to meet appointments of various kinds. The aides felt that if patients were free to come and go, this represented also freedom to decide whether or not they would bathe or whether or not they would keep dental appointments. They felt that they had lost all control of patient activity. They were unable to see limit setting except in terms of actual physical restriction. As time went by, some of the more major problems diminished but it was our clear impression after a year of operation that the aide definitely requires a fairly structured job situation and should be permitted to use his own judgment only within prescribed and fairly narrow limits.

Another major difficulty was the aide's tendency to interpret recreational activities merely as fun, diversional or as leisure activities. It was difficult to inculcate the concept that a ball game or a picnic offered more than simply entertainment for the patient group. It was not easy for the aide to understand that these activities were actually work. Sometimes they felt guilty that

they were not doing their job as they saw it. Part of the problem seemed to be that the kinds of things which were done with patients were the same kinds of things which aides would do in their own private lives outside of the work situation. Sometimes aides tended to be punitive about this aspect of the program feeling that we were being "too good to patients" and that patients were "getting much more than they deserved." Probably this attitude arose partly from the fact that the research project engaged in a more active recreational program than the hospital at large. Aides were never reluctant to engage in an occasional party or assist with an occasional field trip or picnic but the concept of providing these things on a regular basis as a necessary part of the regular therapeutic program was foreign. The motivating factors which the research staff accepted were never totally embraced by the aide group. The research staff felt that there should be a slow and progressive transfer of increasing responsibility to the patient population for initiation of planning and program development. The aides' role was seen as one of assisting in this transaction and slowly withdrawing from a participating role to a supervisory or stimulus role for the patient group. The aide's tendency was, however, to assume a disproportionate degree of responsibility for both program planning and program participation. This problem was modified in time but the idea that patients could operate as responsible individuals at least in some areas was never totally accepted.

There were some problems which were particular to the project itself with respect to the number of staff available for ward operation. The work of Gutenkauf(5) in particular is of interest in this area. We discovered that we did not have the optimum number of employees working with patients. With our large number of employees, we had difficulty in appropriately dividing responsibility and in getting individuals within the aide group to accept their share. It was much too easy with a large number for responsibility to be shifted to the point that at times no work was done. Linen handling, for example, for a long while presented special problems. If an aide found this to be a difficult or unpleasant task, it

was easy for him to encourage the charge aide to find someone else to take care of it because, after all, there were plenty of people. The assigning of any task which was not popular posed this kind of problem. Without clear and unequivocal direction, floors were not swept, beds were not made, patient appointments were not kept and activities did not get started because "there were plenty of people to do the job." The idea of everyone pitching in never materialized in an adequate fashion. With a large number of personnel, it was also possible for more intense aide-patient interaction. This did not always work out favorably. Sometimes this interaction was inappropriate and unhealthy competition arose. There was also a greater possibility for manipulative behavior on the part of patients. There was yet another disadvantage to the patient. It was much more tempting for personnel to carry out tasks than it was to motivate patients to do them. We suspect that it requires particular persons with particular training to assist with the remotivation of the chronic patient. There are, then, very definite and particular problems in trying to operate with a large staff.

Problems Following Training. At the end of the 4-month training program, aides were sent to other units throughout the hospital. For 6 weeks, the research staff continued to follow the aides in their new settings. After an initial period of increased activity on each unit, there was a general leveling of performance to that previously existent in the building to which the aides were assigned. As soon as project staff support was withdrawn, former engagements in improving patient grooming and attempting to increase patient-to-patient interaction diminished. The tendency was for the aides not to continue to pursue these activities aggressively. This was a consistent finding with all three groups. There seemed to be a number of factors operating. The two most tangible ones were the need for support and structure and, secondly, the resistance to change within a hospital structure or the leveling aspects of the hospital culture.

Testing Results. The most revealing thing was that in the comparison of a number of attitudes, there was no significant statistical

difference between the control and the experimental groups. With respect to ratings of performance, however, there was one area which showed a change which is of interest. All aides, experimental and control, were rated by supervisors as to performance. These scores were dichotomized on the basis of highly rated and lowly rated. Of these four groups, then, it was found that the most highly rated experimentals showed the greatest change in custodial attitudes as compared to the other three groups. This change occurred, however, only in the post to follow-up period. Why this particular group should improve at this particular time after training is not clear. This particular observation, however, is of some importance in that it would indicate that supervisory ratings might be a sensitive indicator for screening out aides who will favorably respond to a program.

Also of interest are the MMPI findings within the experimental group. There tended to be a deviation in the Ma score and in the Pd scores for the experimental group. These deviations are increased above the normal for the general population. We also discovered that there is a very strong tendency for high Pd scores to correlate with poor performance. On the basis of the Pd deviations and the supervisory ratings, we would expect that poor performers ought to be available for identification within a short time after hiring.

CONCLUSIONS

Overall, we can clearly say this program was not an effective means of bringing about attitude changes or significantly changing work performance. We believe that the effectiveness of a program will probably be greatly hampered by the very nature of the aide group. There is such a diverse edu-

cational background as to make any program planning difficult. It is our feeling that the aide as now selected is a much less potent force in the growth of a positive program than is usually believed. Aides, in order to maintain adequate functioning, require aggressive nursing programs, staffed by properly trained nurses as key people. Although there is a great need for further study, there is a possibility that the good performer can be pre-selected. It may well be that hopes of upgrading patient care through in-service training of aides are not entirely realistic. Some more fundamental changes are probably needed in our concept of the job and in our concept of proper care of the hospitalized patient. This involves changes in educational requirements, selection procedures, pay scales and perhaps a total restructuring of responsibility within the hospital.

(Detailed statistical data on the study are available from the authors on request.)

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EXPLORATIONS IN ALTERNATIVES TO HOSPITALIZATION¹

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The primary goal of the Massachusetts Department of Mental Health is the treatment of the mentally ill "with the expectation that those who are hospitalized may be restored to productive community life and that those who are in the community may be restored without recourse to hospitalization"(1). This paper describes a demonstration project⁴ at the Massachusetts Mental Health Center that has explored some methods of achieving the second part of this goal—the prevention of psychiatric hospitalization. The project, based on a pilot study(2, 3) initiated in Jan. 1956, began operating in Sept. 1957 as a new research-oriented clinical unit of the hospital known as the "Community Extension Service."

In setting up the Community Extension Service as an integral part of the Massachusetts Mental Health Center (hereafter abbreviated as "CES" and "MMHC"), Harry C. Solomon,⁵ MMHC Superintendent, challenged it to show 1) that a significant number of the persons who are referred to MMHC for inpatient care could be adequately and safely treated by measures other than hospital admission; 2) that these alternative measures could be developed from existing community resources and professional techniques; and 3) that effective alternative measures could be less costly in time, money, and personnel than

hospital admission.

BACKGROUND

The parent institution, MMHC, the smallest by far of the 12 Massachusetts state mental hospitals, has been devoted to treatment of acute psychiatric illness, to education, and to research since its opening in 1912. It is located in Boston in the Harvard Medical Center, and is Harvard's principal psychiatric teaching facility.

By 1957, MMHC's growing facilities provided adult inpatient care on four wards⁶; outpatient care in the Southard Clinic (offering long-term, intensive psychotherapy) and the Community Clinic (treating only former inpatients); an active ex-patients' club; a privately sponsored Halfway House; a Day Hospital; a Night Hospital; and an intensive rehabilitation program(4). Most of these activities were initially oriented toward aftercare of inpatients, so as to shorten hospital stay and decrease readmissions. As the staff gained experience and confidence in aftercare, it was decided that the Day Hospital, which had served as a transitional stage between inpatient ward care and community life, ought to be able to admit seriously ill persons directly from the community. A number of patients, accordingly, were treated and discharged without ever staying overnight. A logical next step was an "extension" of the hospital into the community to provide preadmission treatment that might circumvent hospitalization entirely.

Another factor that encouraged the development of CES was the "waiting list" for admission to MMHC. The waiting period, commonly 10 to 14 days and occasionally 6 weeks or more, was often difficult for both patients and their families(5). CES would be available without more than a day's delay, and could offer 1) complete and definitive care, entirely on an outpatient basis, or 2) treatment that would con-

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⁵ Principal investigators were Dr. Solomon, Dr. Milton Greenblatt (Asst. Superintendent), and Dr. Halim Mitry (Executive Officer). CES is also indebted to Stefan Kraus, M.D., Project Director for the first ten months.

⁶ Two new wards opened in Dec. 1958, increasing the adult beds from 130 to 165.

tinue on the ward when a bed became available, or 3) at least stopgap services or consultation to alleviate the distress of the waiting period.

Finally, the development of CES as an extension of the hospital into the community was stimulated by other experiments in home treatment and pre-hospital care in Amsterdam and elsewhere in Europe, and by concurrent work in this country(6). Although by 1957 the U. S. mental hospital population was decreasing, admission rates were still rising, pointing to the need for defining more exactly the indications for inpatient care and for exploring the possible alternatives to 24-hour ward care.

PERSONNEL AND PROCEDURES

During the 6 months covered by this report, the CES clinical team included 3 persons: a full time psychiatrist and psychiatric social worker, and a half time psychiatric nurse. Other personnel included a research psychologist, a secretary-receptionist, and, in 1959, a second clinical team and additional research staff. One floor of an old 3-story dwelling house across the street from MMHC was used as a suite of offices and reception room. This location, clearly separated from the hospital, helped to emphasize that the CES goal was extramural treatment.

The operating procedure, step-by-step, is as follows:

1. A CES psychiatrist reviews the MMHC waiting list daily, and selects from it the names of persons meeting these criteria—aged 16 or older,⁷ residing in Greater Boston,⁸ not currently an inpatient in any kind of hospital, and not currently in treatment in any unit of MMHC.

2. The psychiatrist then telephones the

referring physician to explain the CES goals and to offer immediate service to the patient and family.

3. If the physician rejects this offer, CES takes no further action. If he agrees to CES intervention, our psychiatrist then discusses with him in specific terms what CES proposes to do, and whether medical responsibility for the patient during the waiting period is to rest entirely with CES or with him, or is to be shared in some clearly understood fashion.

4. CES then contacts the patient or his family, having always obtained the referring physician's explicit permission to do so. As a rule, the social worker makes this contact by telephone, and schedules:

5. An interview between patient and psychiatrist, and an interview between a significant family member and the social worker, preferably at CES offices, but at the patient's home if necessary. During both these diagnostic interviews, CES is described as a service designed to help the patient find adequate treatment without admission to the hospital.

6. The psychiatrist and social worker usually confer briefly, and then all four—psychiatrist, patient, social worker, and relative—meet together to decide whether CES will begin treatment or recommend admission.

7. This decision is often postponed pending further diagnostic study, which may include physical examination, laboratory tests, x-ray, and psychological tests (the Minnesota Multiphasic Personality Inventory, the Leary Interpersonal Check List, and the TAT).

8. A diagnostic home visit, often the quickest and most accurate way to form a picture of the patient-family interactions, is usually worth the extra time and effort it requires. When the patient cannot or will not come to CES, or when we expect that the patient will need help with personal hygiene, housework, or baby care, the CES nurse usually makes the initial visit. When seeing the patient's family is the primary purpose, the CES social worker will visit. The psychiatrist visits only when the patient cannot be persuaded to come to CES. CES experience with the home visit will be reported elsewhere(7).

⁷ Persons under 16 are not treated on adult wards in Massachusetts. In Oct. 1958, MMHC opened an Adolescent Service for ages 14-17; since then, CES has excluded persons under 18.

MMHC has no strict upper age limit for admissions, but the referral of bedridden senile persons is discouraged. The oldest CES patient in the last half of 1958 was 62; only 6 others aged 60 or more appeared on the waiting list during this period.

⁸ CES defines Greater Boston as including the area within 45 minutes' travel from CES by automobile or public transportation.

9. The treatment measures CES uses most often are psychotherapy, drugs (principally chlorpromazine and meprobamate), EST, social casework with patients or relatives, special nursing care, day hospital care (supervised by CES), and provision of special services, such as vocational counselling. Whenever possible, the Visiting Nurse Association, a Family Agency, the family physician, and other community resources are brought into the treatment program.

10. Preadmission counselling (when hospitalization cannot be avoided) is usually handled by the social worker, who helps prepare the patient for the transition to hospital life and the family for the temporary loss of the patient. She might, for example, arrange temporary placement of a patient's children, or might introduce patient and family to the MMHC physician or nurse who will supervise inpatient care.

11. Finally, CES procedure includes follow-up of patient and family one year after referral, by persons other than those who made the initial contact. In addition, a CES psychiatrist has interviewed about a third of the referring physicians(8) in order to complete our picture of the events and feelings, as viewed by patient, family, and physician, that led up to the decision to hospitalize(9).

RESULTS

Our results have been encouraging. Preliminary figures show that alternatives to inpatient care were provided for 71 (52%) of the 136 persons seen in our first two years; the remaining 65 (48%) were admitted to MMHC or elsewhere for inpatient psychiatric care. This paper, however, discusses in detail only those whose initial contact with CES occurred during the 6 months from July 3, 1958 to January 5, 1959, since we have a one-year follow-up for this group.

During this period, the names of 185 persons were added to the MMHC waiting list. Table 1 shows that those not available to CES totalled 148 (80% of 185), including 114 who did not meet CES criteria, 29 whose referring physicians refused CES help, and 5 whose families refused CES help.

The outcome for the remaining 37 (20%)

persons, all of whom were 1) referred to MMHC by a physician specifically for admission to an inpatient ward, 2) interviewed by a CES psychiatrist, and 3) followed up 12 months later, was as follows: alternatives to hospitalization were found for 18 (49% of 37), and 19 or 51% were admitted for inpatient care. Two of the non-hospitalized group were treated by the CES staff in the MMHC Day Hospital, leaving 16 (43%) not institutionalized in any way.⁹

The interval between referral and admission for the 19 hospitalized persons was less than 30 days in 14 cases (74% of 19); 2 entered within 60 days, and 3 entered after 11, 22, and 23 weeks.

The alternatives prescribed for the 16 non-institutionalized persons were not unusual forms of treatment. Eleven received psychotherapy at CES for periods ranging from 6 weeks to 1½ years; 4 of these 11 also received drugs (see Case 1), and 2 of the 11 also received electroshock treatment. Of the remaining 5, 2 were referred to psychiatric outpatient clinics; one received case work at a family agency; psychotherapy by a private psychiatrist was arranged for the fourth; and the fifth was managed by "environmental manipulation."

ILLUSTRATIVE CASES AND COMMENTS

The following examples will illustrate the kinds of patients seen, the alternatives prescribed, and the results.

Case 1: This single woman of 46 had been briefly hospitalized in 1940 with a diagnosis of dementia praecox, catatonic type. Her family had removed her against advice, sheltering her at home ever since. Following her mother's death in late 1957, she became more withdrawn and bizarre, and finally the fire hazard of her careless cigaret smoking throughout the night led the family physician, with the father's reluctant approval, to put her name on MMHC's waiting list in August 1958. CES intervened, and after discussing the case with the referring physician, obtained his permission to telephone the father, who promptly agreed to bring the patient to CES for an interview. The patient obediently accompanied him, but remained mute, grimacing,

⁹ One of the 16 not institutionalized died of myocardial infarction 6 months after referral, as CES treatment was terminating.

and preoccupied throughout the initial meeting.

The father was delighted when CES offered to try to help him keep the patient at home. The patient remained mute and would not say whether she even understood what we planned, but she did not resist returning to CES with her father, and she took medication (chlorpromazine up to 800 mgm. daily) from him. At first the patient could tolerate only 5 to

10 minutes alone with the doctor each week. Meanwhile, the social worker met regularly with the father, and occasionally saw a married sister and brothers, while the CES nurse supervised weekly home visits by a student affiliate nurse, who would spend an afternoon with the patient, sharing with her the preparation of a meal or a shopping trip. Improvement was slow but steady, marked by gradually neater appearance and less inhibited

TABLE 1
Fate of the 185 Persons Awaiting Admission (7/3/58-1/5/59)

PATIENTS GROUPED ACCORDING TO IMMEDIATE OUTCOME OF CES SCREENING PROCEDURE OR TREATMENT	ADMITTED FOR WARD CARE WITHIN ONE YEAR	NOT ADMITTED WITHIN ONE YEAR	TOTAL ADMITTED AND NOT ADMITTED	
			NUMBER	% OF 185
1. Persons excluded in CES screening procedure :				
(a) Of the 185 persons awaiting admission, 104 did not meet CES criteria:				
Already hospitalized elsewhere	64 *	—	64	35%
Currently in treatment at MMHC	18	6	24	13%
Less than 18 years old	6	3	9	5%
Not within commuting distance	7	—	7	4%
And, 10 more were excluded for miscellaneous reasons :				
Administrative request	3	2	5	2%
Admitted before CES could act	4	—	4	2%
Patient spoke only Chinese	1	—	1	1%
Subtotal :	103 (90%)	11 (10%)	114 (100%)	62%
(b) CES sought the referring physicians' permissions to see the remaining 71 persons; 29 physicians rejected CES help, because :				
Patient "must have ward care"	13	12	25	14%
Admission no longer necessary	—	4	4	2%
Subtotal :	13 (45%)	16 (55%)	29 (100%)	16%
(c) CES offered help to the remaining 42 persons; the families of 5 of these 42 rejected CES and demanded admission :				
	5	—	5	2%
SUBTOTAL : Sum of (a), (b), & (c) :	121 (82%)	27 (18%)	148 (100%)	80%
2. Persons treated by CES :				
Outpatient care by CES staff	—	11	11	6%
CES-supervised day care	—	2	2	1%
Referred elsewhere	—	5	5	3%
Admitted for ward care	19	—	19	10%
SUBTOTAL :	19 (51%)	18 (49%)	37 (100%)	20%
TOTAL	140 (76%)	45 (24%)	185 (100%)	100%

* Of the 64 persons already hospitalized, 32 were subsequently transferred to MMHC and 19 to other mental hospitals, leaving 13 who continued as inpatients without subsequent transfer, and who were not, technically, "admitted within one year."

verbal communication, and by making the hour-long rapid-transit trip to CES alone. After 1½ years, she was well enough to talk of seeking employment. Subsequently, the psychiatrist had to discontinue contact with the patient, but she continues to take moderate doses of chlorpromazine, she comes to the hospital for regular talks with a graduate nurse, and the weekly visits of a succession of student nurses, each seeing her throughout the 3-month affiliation, have now gone on for 2½ years. Their educational value for the students is important, but aside from this, they seem to be meaningful enough to the patient to warrant continuing them indefinitely, as long as the patient's hospital admission can be postponed, if not prevented, with an investment of only two hours a week.¹⁰

Comment: The decision to attempt to treat this patient outside the hospital was based on the following reasoning. First, a basic CES assumption (or bias) is that outpatient treatment is, generally and relatively, better for the individual and the community than hospitalization. We recognize that some patients (e.g., those who may harm themselves or others) clearly need 24-hour ward care. We also believe there are others for whom hospitalization is clearly contraindicated (e.g., certain patients with extreme dependent tendencies). But most patients, in our opinion, fall between these two extremes; and they usually can be, and therefore should be, treated without hospitalization.

Second, CES reasoning is based on evaluation of the risks to all concerned and the probable outcomes of the various alternatives in comparison with hospitalization. In Case 1, we believed that the fire-hazard could be minimized, and we had no reason to expect violence or suicide; therefore, the only risk, if home treatment failed, was that her admission would be delayed. Hospitalization, on the other hand, carried the risk of being lifelong; even if she improved, her aging father's death or illness might leave no one willing to accept her on trial discharge. The chance that outpatient care

might strengthen the patient so that she could survive her father's death or become even a partly self-supporting citizen was admittedly small; but in our opinion the chance that inpatient care might achieve this outcome was infinitesimal.

Case 3: A 19-year-old boy was brought by his older brother to the family physician, who referred him for admission on hearing that he would not go to work, kept odd hours, talked strangely of religion, and was often argumentative. When the CES social worker telephoned the mother to arrange an appointment, she was asked to talk to the patient directly. He came to the telephone, agreed to an interview, and came alone to CES, arriving on time and neatly dressed. If he had not described himself as ill and eager for treatment, only the occasional bizarre word or phrase would have betrayed the severity of the illness during his interviews. He and his mother agreed to a trial of outpatient treatment, but the mother, whose behavior was puzzling at first, wanted the home visit delayed "till I can tell my husband." Further interviews with the mother brought out that two older children in this family had been institutionalized—one was mentally retarded and the other died in a mental hospital after surgery for brain tumor—and indicated that what initially seemed to be a casual attitude toward her son's illness was probably a reaction to feelings of depression and preoccupation with guilt.

Following the patient's third visit to CES, his mother telephoned to report that he had become argumentative and had thrown a bottle through a closed window, but had calmed down. She was given a night telephone number to call if there was further trouble, and agreed to use it. When the patient's brother returned from work that evening, however, and was told of the patient's actions, an angry argument ensued, ending with the brother escorting the patient to MMHC and demanding admission, which the doctor on duty arranged without informing CES.

Comment: CES failed in this case because it was assumed that the mother's attitude reflected that of the entire family; if she and the patient preferred outpatient care, we supposed other family members would agree. A home visit might have corrected our impression, and might have helped us to attach the proper significance to the two clues we overlooked: mother's

¹⁰ Some observers feared that object-loss recurring every 3 months would be harmful to a schizophrenic person. This patient perhaps viewed the succession of student nurses as a recurrent object-gain.

reason for delaying the home visit, and brother's original insistence that the patient see a doctor. A talk with the brother might have served the same purpose, but like the home visit, it too was delayed; in fact, neither patient nor mother had told anyone in the family of their visits to CES. It is possible that CES underestimated the patient's degree of illness or overestimated the mother's influence in the home, and it is certain that provisions for communication between CES and family, and CES and MMHC, were inadequate on the night of admission. These errors surely contributed to our failure to provide a "suitable alternative" to admission, but in our opinion they are less important than what must be called, in retrospect, the folly of attempting to treat any person without bringing all of the significant family members into common alliance with the patient and the treatment team. Our term, "failure," does not mean that CES considers this admission unnecessary or that the patient was out of place in the hospital; it implies, instead, our belief that we could have treated this patient in the community if we had more aggressively sought either an interview with the brother or a visit to the home.

Case 4: This 20-year-old woman started behaving strangely on the fourth day after her baby girl was born, but in spite of her overtalkativeness and refusal to stay in bed at night, she was discharged home with her baby. She was extremely concerned about the infant yet unsure of how to care for it and unwilling to follow the advice of her mother. Arguments with both mother and husband became increasingly loud, frequent, and uncontrolled, and the patient was hoarse almost to the point of muteness when the husband in desperation took her to a psychiatrist's office. The doctor at once put her name on the MMHC waiting list, and then called CES to suggest that we explore the question of whether or not a manic person can be handled without hospitalization.

CES promptly saw the patient, husband, and mother, who were willing to try outpatient care, primarily because they saw admission as disgraceful. There were frequent office visits thereafter, and numerous telephone calls, day and night, from all three. The patient agreed, after considerable persuasion, to take chlorpromazine in doses up to 150 mgm. q.i.d., and her overactivity diminished a bit. New crises

appeared frequently, and there would again be a flurry of telephone calls, which the staff handled more adeptly as their knowledge of the situation increased. The social worker was seeing both the mother and husband regularly in an effort to support them and also to aid them in gaining insight into how their behavior was affecting the patient. CES was without a nurse at this time, and therefore called upon the Visiting Nurse Association to instruct and help this young mother with the baby, and also to observe what was going on between mother and patient with regard to the baby.

At the end of a year, the patient was in good enough control to be able to arrange long-term psychotherapy at a local outpatient clinic; she successfully held a part time job, which was necessary because of her husband's behavior; and she dealt with both husband and mother in a more mature fashion. The husband had reacted to the birth of the child with jealousy, and to his wife's illness with anger and depression; he made it clear that he considered the illness a betrayal which voided the marriage. He displayed this anger through repetitive extravagances, by losing job after job, and finally by passing bad checks, and was persuaded to enter treatment himself only after narrowly escaping a jail sentence. In many ways the patient appears, after 16 months, the stronger of the two, and is currently the one who is less in need of help.

Comment: Treatment of this manic patient obviously occupied most of our staff at various times, and required round-the-clock availability at the beginning. This raises the question of the cost of CES service in such a case compared to the cost of inpatient care. Aside from this question, which is discussed below, we would point out the advantages, in dealing with an overactive patient and a manipulative family, of our limited staff, which was large enough to satisfy or "cushion" the constant demands, yet small enough to circumscribe the number of people the patient and family could become involved with, and the number of ways they could attempt to circumvent our prescribed regime.

Case 6: A 33-year-old mother of two young children rather suddenly developed crying spells, feared that she might harm the children, and took to bed, unable to care for her home or family. Her husband took her at night to

the psychiatric clinic of a small general hospital where the doctor recommended inpatient EST and telephoned MMHC, asking the doctor on duty to add her name to the waiting list. When told there would be a waiting period, the patient became even more disturbed, and pressed her husband to admit her elsewhere. The MMHC doctor on duty telephoned a CES psychiatrist about this referral, and CES was therefore able to intervene at once by telephoning the patient's husband and scheduling an appointment for the following day. The patient and her husband came to the CES offices convinced that immediate hospitalization was the only answer. Following a diagnostic interview, the patient was told by the CES psychiatrist that she would not harm her children, that she would get better and once again take care of her family, and that this might be accomplished without the need for EST. Patient and her husband were seen together by the psychiatrist and social worker, and these reassurances repeated. The response was immediate; both patient and husband accepted the opportunity to try to solve the situation with CES help and returned home with relief and hope. She came regularly to CES, despite a bus strike that isolated her part of town for 6 months, and made steady improvement. Much of the trouble centered around the husband's attachment to his mother, who had moved into the house to take over while the patient was ill; when the patient was encouraged to send her mother-in-law back home, she found herself able to do the housework that she could not manage before. Talking then of her feelings about her own parents and her fear of motherhood helped to clarify her feelings toward her children, and as treatment was terminated, she was fully in charge of her family and optimistic about the future.

Comment: This example demonstrates the therapeutic value of immediate aid at the time of crisis, especially in a situation that patient, family, and referring physician had pessimistically viewed as hopeless without hospital care. Just as the pessimism of one party reinforced the pessimism of the others, the husband's obvious pleasure and relief on hearing at CES that his wife might not need admission was immensely reassuring to her. CES' promptness and optimism were probably crucial in this case.

DISCUSSION

At the start of the pilot study, Robinson

(2) postulated that "immediate and effective treatment" of waiting list patients should enable many of them to circumvent hospitalization. If it is granted that our results support the possibility of preventing hospitalization, it is worthwhile to determine whether or not this was accomplished by treatment that was immediate and effective.

CES' *immediate* availability at the time of referral was a crucial factor in just one (Case 6) of the 4 examples given above, and it would be fair to state that about 5 of 6 of all our patients did not need our help on an emergency basis. It was important in nearly all our cases, however, that we be *promptly* available, meaning that we could intervene within 24 to 48 hours. In our experience, the swiftness of our response has been less important than the fact that we did respond, and that we declared our availability and our willingness to assume responsibility for the patient's care. Similarly, we have not found many cases in which our response had to be accompanied by action, such as immediately visiting the patient's home; very often, our telephoned statement that we will "take over" the case seems to diminish the urgency of the situation to the point that the patient and family will be able to await an appointment at our offices on the following day. In short, although we underline the necessity for *promptness* in making ourselves available, we have found little occasion for emergent or dramatic activity.

Our only measure of the *effectiveness* of our treatment has been the patient's ability to remain in the community for 12 months. On comparing mental status and social adjustment at the time of the follow-up interviews with similar evaluations at our initial contact, we can report a degree of improvement in most patients, but we have no way of determining whether more or less improvement might have resulted if the patients had been hospitalized. Reviewing our 4 case examples, it is our opinion that the treatment we provided, and the 12-month outcome, in Cases 1, 4, and 6 would not fall short of what hospitalization might have accomplished; in Case 3, our treatment attempt was abortive—this patient, incidental-

ly, was still on an MMHC ward at the end of a year.

Although we provided relatively long-term care for some persons, and often achieved definite changes in clinical status by means of EST, psychotherapy, or drugs, we also felt that symptomatic change, or situational change, was a satisfactory endpoint in many cases.

With each new patient, we attempted to assess the whole "patient-family situation" in order to determine what changes or losses had led to the referral for admission, and what needs would have to be supplied in order to prevent admission. Any measures that stabilized the situation or restored the *status quo*, and thereby forestalled admission, would, in our opinion, qualify as *effective* treatment.

It is in "assessing the situation" that the special skills of the nurse and social worker, especially as employed in the home visit, are invaluable; these staff members also have a major role in "supplying needs." In general, our efforts seemed to be effective in proportion to our flexibility in adapting ourselves to the particular requirements of each patient's situation. Willingness to assume the role that will be most helpful to the patient rather than a more limited role that might be dictated by professional training has been an asset in our staff members. It has also made it important at times for us to assign our personnel to patients or to specific responsibilities, such as a special home visit, on the basis of personality traits rather than professional training. In recruiting personnel to staff an "extension service," then, we would recommend as prerequisites enthusiasm for the prevention of admissions, ability to enter the patient's home and to participate, within limits, in the patient's life, and flexibility in attitude and outlook.

The cost of CES treatment during the last half of 1958 was \$7,600, which covered salaries for the clinical team, supplies, travel and telephone. This figure excludes research staff salaries and items furnished at no cost by MMHC, namely, drugs, EST, office rent and maintenance, and other overhead expense.

Dividing \$7,600 by the 37 patients seen yields an average cost per patient of \$205.

If it is argued that CES accomplished nothing for the 19 persons hospitalized, and that all expense should be charged to the 18 whose admission was prevented, the average cost of each successful alternative ($\$7,600 \div 18$) is \$422.¹¹

An estimate of the cost of the items furnished by MMHC could be added to the \$7,600, but we will assume that this added cost is offset by the fact that CES clinical staff did not devote all its time to the 37 patients described. Ten other persons were evaluated and treated in late 1958; they are excluded from this report because they were self-referred, rather than referred by a physician specifically for ward care. (We admitted 1 of these 10, and found admission alternatives for 9.) CES was also treating 15 patients referred before July 1958; 9 of these 15 were still being treated by CES in 1959. The \$7,600, therefore, provided clinical services for $37 + 10 + 15 = 62$ persons; it also pays for the time spent by CES staff in teaching and other non-CES activities at MMHC.

If it cost \$422 to treat a person referred for admission outside the hospital, how does this compare with the cost of inpatient care? In 1958, the average daily cost per patient in all 12 Massachusetts state mental hospitals was \$4.59, and the average patient stay was 180 days, giving a total cost of \$826 per admission (10). MMHC inpatients in 1958 were billed \$23 per day for ward care, but stayed an average of only 84 days, giving an average "cost" per admission of \$1,932.¹²

These unsophisticated calculations lead us to the conclusion that the cost of CES treatment is, at least, not greater than the cost of inpatient care. This opinion is supported by Hyde and Brennan (11), who found at the Butler Health Center that

¹¹ Follow-up studies now in progress may enable us to state whether CES treatment was of benefit to the persons whose admission we did not prevent (e.g., by shortening hospital stay).

¹² CES patients were not billed for treatment. Admission to MMHC would have meant a large bill for the family, and this may have provided an incentive for cooperation in outpatient care. Most families did not ask if we would send a bill, however, and we did not initiate a discussion of fees. Only one CES patient could afford private psychiatric care, and this one was so referred.

alternatives emphasizing "individual therapy on an outpatient basis show the least total cost to the community in the long run." Goshen(12) notes that the *per diem* costs of an inpatient alternative (day hospital care) exceed those of standard state hospital ward care, but that the total cost per patient of the briefer, more intensive day care is less than the total cost of inpatient care.

Table 2 attempts to show that the CES

list persons were admitted within 12 months, and incorporated the results in Table 1. In Table 3, we compare the 1958 waiting list group of 185-37 treated by CES and 148 not treated—with the 1957 control waiting list group, and show that the percentage of CES-treated persons hospitalized is significantly smaller than the percentages hospitalized in the other two groups.

A detail worth noting in Table 1 is that only 45% of the persons whose referring

TABLE 2
Diagnoses of MMHC and CES Patients; and, Fate of CES Patients, by Diagnosis

DIAGNOSIS	MMHC ADMISSIONS		CES PATIENTS			
	TOTAL ADMITTED 7/1/58-6/30/59		TOTAL SEEN 7/3/58-1/5/59		ADMITTED FOR WARD CARE	ADMISSION PREVENTED
Acute & chronic brain disorders	62	9%	1	3%	1	—
Mental deficiency	13	2%	—	—	—	—
Involuntary psychotic reactions	21	3%	6	16%	4	2
Manic-depr. & psychotic depressive reactions	67	10%	1	3%	1	—
Schizophrenic & paranoid reactions	198	29%	16	43%	10	6
Psychoneurotic & psychophysiologic disorders	87	13%	12	32%	3	9
Personality disorders	227 *	33%	1	3%	—	1
Other non-psychotic disorders	8	1%	—	—	—	—
TOTAL: ALL DIAGNOSES	683	100%	37	100%	19 (51%)	18 (49%)

* The large number of diagnoses in this category is probably related to the large number (224 in 1958-59) of admissions each year of persons under indictment or charged with criminal offenses, whom the courts send to MMHC for observation.

patients were at least as "sick" as MMHC inpatients. Of the 683 MMHC inpatients admitted between July 1958 and June 1959, 286 (42%) were classed as psychotic; 23 (62%) of the 37 CES patients were psychotic.

To evaluate our results more precisely, we studied the "natural history" of the pre-CES waiting list, and found that 60% of the persons listed in early 1957 were admitted to MMHC and 20% to other mental hospitals, but the remaining 20% did not enter any federal, state or private psychiatric hospital in Massachusetts within one year after referral to the list(13). Since CES treated only 37 persons, or 20% of the 185 listed during 6 months, we try to show in Table 1 that our treated 20% are distinct from the 20% who would evade hospital admission in the natural course of events. From Department of Mental Health records¹³ we learned which of the 148 waiting

physicians rejected our help were subsequently hospitalized. All of these doctors, incidentally, were psychiatrists; general practitioners invariably agreed to CES intervention. Our data do not as yet explain how these referring psychiatrists achieved their 55% rate of "prevention." Perhaps these patients were less sick, or spontaneously improved, or responded to new or more vigorous treatment during the waiting period. Perhaps, too, the referring doctor's reason for rejecting CES help was his intense concern for and devotion to his patient, and this in itself turned the tide. This kind of determination to see the patient

tistics of the Massachusetts Department of Mental Health records admissions to all federal, state, and private psychiatric institutions within the Commonwealth except the psychiatric wards of general hospitals. CES is indebted to Thomas F. Pugh, M.D., Director of the Division, for aid and advice in this investigation, and to Miss Agnes K. Durkin and Mrs. Ruth D. Bluhm for their painstaking search of the Division records.

¹³ The Division of Research and Medical Sta-

TABLE 3
Fate of the 185 Persons Awaiting Admission in Late 1958,
Compared with the 125 Awaiting Admission in Pre-CES 1957

	COLUMN 1 ADMITTED FOR WARD CARE WITHIN ONE YEAR		+	COLUMN 2 NOT ADMITTED WITHIN ONE YEAR		=	COLUMN 3 TOTAL	
	NUM- BER	% OF COL. 3	+	NUM- BER	% OF COL. 3	=	NUM- BER	% OF TOTAL
Persons Awaiting Admission July 3, 1958 to Jan. 5, 1959								
Excluded by CES screening procedure	121	82%		27	18%		148	80%
Treated by CES	19	51%		18	49%		37	20%
TOTAL :	140	76%		45	24%		185	100%
Persons Awaiting Admission January 1 to March 31, 1957								
TOTAL :	100	80%		25	20%		125	100%

The chances are less than 1:100 that the differing distributions of the 37 treated patients and the 148 excluded patients would occur by chance.

through to a solution of his problems is, we feel, a major part of what CES tried to offer.

SUMMARY AND CONCLUSIONS

During a 6-month period, the Community Extension Service sought alternatives to hospitalization for 37 persons awaiting admission to the Massachusetts Mental Health Center; 18 (49%) were successfully treated as outpatients, and remained in the community for at least 12 months, and 19 (51%) were hospitalized. It is concluded that alternatives to inpatient care can be provided for a significant number of persons who are referred for admission, and that the cost of these alternatives is no greater than the cost of ward care. Special personnel, unusual techniques, and elaborate resources are not required for these alternatives. What is required is a different view of the function of the mental hospital. When the treatment team decides that hospitalization often can and should be circumvented, and adopts prevention of admission as one of its primary functions, it will find practical alternatives to admission right at hand. The team will need a willingness to take responsibility for the patient's care promptly; a willingness to be flexible with regard to how and where treatment is to be given; and a willingness to consider together the patient, his family, and his environment in diagnosis and treatment.

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ABSTRACTS

A STUDY OF CERTAIN PSYCHOLOGICAL ASPECTS OF VOCATIONAL (OCCUPATIONAL) DISABILITY

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Since 1953 the Boston Welfare Department has referred some of its applicants for disability assistance on psychological grounds to the psychiatric clinic of the Massachusetts General Hospital for evaluation and recommendations. There has been, with the exception of one year, 1956, a gradual increase in the number of applicants so referred to the MGH. This group was studied in an effort to determine as well as possible the factors that disabled these individuals psychologically. The study consisted of: 1. A review of the records of the applicants seen for the 5-year period January 1, 1954 to December 31, 1958 with emphasis placed on determining the number of applicants seen each year for the 5-year period, the age, sex, marital status, the type of problem presented and the disposition; 2. A more detailed review of the records of the applicants seen in the calendar year 1958 with the classification of each applicant according to the nomenclature of the Diagnostic and Statistical Manual of the APA, and the further classification of the Boston applicants of this group into 1 of 5 groups, each such group having disability dispositional implications; and 3. The recording of a detailed history of those 5 applicants from the Boston area having primarily disorders of psychogenic origin without clearly defined tangible cause or structural change. This was accomplished by reviewing the records and several evaluative interviews with these applicants by the author in the psychiatric clinic, MGH.

For the calendar year 1958 these applicants accounted for 12% of all evaluations (775) all purposes, psychiatric clinic, MGH. For the same year disability assistance accounted for more than 12% of the total budget (over \$36 million) for the 4 categories of public assistance (aid to depend-

ent children, old age assistance, disability assistance and general relief) for the City of Boston.

An average of 83.3% of the applicants evaluated at the MGH psychiatric clinic for the 5-year period (a total of 177) were considered to be psychologically disabled by the examining psychiatrists. Thus it appeared that the decision that the applicants were disabled had already been made in practice by a community caretaker and the applicant then started in channels which would lead to official confirmation of this community decision.

The greatest number of applicants was in the age group 40-49 (33% of 177) with the next highest number in the age group 50-59 (31%). Of the 1958 applicants, 86% (93) were previously known to the various clinics of the MGH and 14% had their first contact with the MGH when they were referred to the psychiatric clinic for disability assistance evaluation. Of those previously known to the MGH, 23% had their first contact with the hospital through the medical clinic and 7.5% through the psychiatric clinic. The largest number of this group had more frequent contacts in the following clinics: medicine, nerve, psychiatry and orthopedics, in the order listed. The applicants were equally divided into male and female, except for the 60-69 category in which the number of females was twice that of the males. Fifty-six percent of the applicants were single and only 18% married. If the single, separated, divorced and widowed were combined, 81.7% of the group would be included. In the separated group, the females were twice that of the males. In the divorced group, the females were almost 3 times that of the males. Of the married applicants only 1 was a woman. The question is raised as to whether the married, psychologically disabled female is supported by her husband or family and the married,

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psychologically disabled male is supported by agencies.

A close study of the 5 1958 applicants of the Boston area, having primarily disorders of psychogenic origin without clearly defined tangible cause or structural changes, led to the postulation of the following steps (they do not necessarily involve all the members of this group) which bring about psychological disability. These steps do represent a generic way of looking at the development of psychological disability. The steps are : 1. A stressful situation which may cause physical or psychological injury or both to the individual with subsequent development of a state of disequilibrium. During this state of disequilibrium the dependency needs of the applicant may be more obvious to an observer and are more readily and comfortably expressed by the applicant ; 2. The individual is most likely viewed by the family and friends as physically ill though the problems of our group of applicants are psychological. During this period family and friends mobilize to gratify the needs of the individual and are most interested in attitudes and opinions of examining physicians ; 3. A period in

which family and friends doubt the existence of a physical illness of the individual and, not being able to accept the concept of psychologically disabling illness, change their attitude towards the individual : "He is not sick, he is lazy." Hostility is then directed towards the applicant by family and friends ; 4. Loss of self esteem by the individual with a sense of role failure ; 5. Development of a hostile, dependent relationship of individual towards family and friends ; 6. Attempts at extrusion of the individual from the family unit ; and 7. A new level of equilibrium for some : complete unemployability.

As a result of the more detailed study of the Boston applicants for 1958 it seems that the greatest potentiality for reversibility of the psychologically disabling state rests with those applicants having primarily disorders of a psychogenic origin without clearly defined tangible cause or structural change. The infrequency with which rehabilitation measures were recommended and the chronicity of the problems presented suggests the need for earlier identification and evaluation of persons potentially disabled psychologically.

THE ISOLATED PSYCHIATRIST IN A MILITARY SETTING¹

INGRAM COHEN, CAPT., MC, AND I. LOUIS HOFFMAN, COL., MC²

Psychiatrists are stationed throughout the world with various military installations and function in a singular capacity, frequently without ancillary personnel. Isolation also comes to exist because the previous training and orientation of the psychiatrist before entering military service are directed toward the idea that his primary responsibility is to the patient. Upon entering military service, the responsibility becomes two-fold,

toward the patient, as well as toward the military mission.

The role of the psychiatrist may be divided into the following categories :

1. *Diagnosis and Treatment.* Since the population from whom patients are drawn consists of young adults whose prognosis is generally favorable, an attempt is made to use methods of psychiatric treatment which may be termed "short-term psychotherapy." In this way it is frequently possible to return military personnel who have suffered even psychotic reactions to active duty.

Military commanders are encouraged to discuss their problems, particularly as they relate to a given individual case. Frequently they are able to formulate environmental

¹ Presented at the Milwaukee Divisional Scientific Meeting of the American Psychiatric Association, Nov. 16, 1961.

The opinions expressed in this paper are those of the authors and do not represent the official views of the Department of the U. S. Air Force.

² Respectively, Chief of Psychiatric Service, Hospital Commander, Westover AFB, Mass.

changes which serve to alleviate maladjustment in some of their personnel. Most commanders have expressed their pleasure in being consulted. In return they frequently invite the psychiatrist to visit their installation so that he may become better acquainted with existing facilities and working conditions.

Treatment of individuals tends to be centered in the outpatient clinic except for the psychotic patients who are hospitalized. Use of psychotropic drugs is encouraged. These medications are used to control heightened anxiety, agitation, and severe forms of depression. Since the psychiatrist's time is limited, referral is also made to community agencies with mental health clinics, particularly for civilian dependents.

2. *Medical-Legal Consultant.* The military psychiatrist serves in a medical-legal capacity with regard to discharge actions brought against military individuals to determine their competency. These individuals have failed to perform satisfactorily in their work and are being discharged for their failure to adapt to military life. Consultations are also performed of individuals alleged to have performed criminal acts. Typical examples of the latter are the psychiatric evaluation of an individual charged with molesting a child or an individual charged with threatening to use a lethal weapon.

3. *Education.* This includes guiding others who deal with patients and providing information on the effective use of psychotherapeutic drugs. To assist physicians in making use of psychotropic drugs, the psychiatrist published a paper for local use which served as a guide to the use of these drugs(1). By utilizing the talents of other physicians who have an interest in psychotherapy and guiding them, it is possible to augment the existing psychiatric facility several fold. This is similar to the method of

supervision described by Balint(2).

4. *Military Security.* Because of the nature of the military facility, it is possible that an individual who is employed in certain classified areas may be suspected of possessing an emotional disturbance which might make him a poor security risk. If an individual appears to be emotionally disturbed his behavior will be immediately apparent to his co-workers and supervisor. It then devolves upon the psychiatric consultant to determine the nature of this disturbance and whether or not medical reasons exist for further security officer action.

Reevaluations are required since there is no fully adequate system for screening of individuals despite many attempts to do so. Instead, as in civilian practice, the psychiatrist employs his evaluation of the everyday functioning of the individual as a guide to the emotional stability of the patient.

5. *Community Liaison.* Since the establishment of the psychiatric clinic, community liaison has markedly increased. As a result, the psychiatrist is able to help supervise social service agencies in the care of patients whom he has referred following diagnostic consultation.

In conclusion it would appear that while a psychiatrist employed in an isolated area, such as a military setting, frequently must make use of his talents to devise an effective means of performing his work, it is possible within such a setting to derive the personal gratification so necessary in professional life. In such a manner, the psychiatrist plays a role in national defense.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

THE EFFECT OF MP-809 IN DEPRESSIVE STATES : A MULTI-BLIND STUDY

H. AZIMA, M.D., DOROTHY ARTHURS, R.N., A. SILVER, M.D., AND
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The search for identification of antidepressant substances other than monoamine-oxidase inhibitors and imipramine derivatives continues. The present note is to report on such a substance: MP-809,² a tryptamine derivative with the chemical formula: 4-Methyl- α -methyl tryptamine. In laboratory studies it has shown anti-reserpine activity, synergism with some central excitatory agents, seizure inhibiting effect and a very weak inhibiting influence on MAO(1).

The setting for this study is called "multi-blind" and has been described elsewhere (2, 3) and in the main consists of 1) a pharmacotherapeutically blind unit where many drugs and placebos are studied simultaneously (all blind), and 2) multiple observer assessment of change through a simple rating scale. Three groups of patients were compared: drug, potent (phenobarbital) and inert placebo groups, each consisting of 31 neurotic and 19 psychotic depressions (5 manic-depressives and 14 schizoaffectives in drug group; 12 manic-depressives and 7 schizoaffectives in both placebo groups). In the schizoaffective patients the main target symptoms were depression and apathy. Vital statistics of the 3 groups were relatively similar. MP-809 was administered with dosage regime of "gradual increase" with an average daily dose of 60 mgm. (maximum 100, minimum 20) for an average period of 21 days. Potent placebo was given with an average daily dose of 30 mgm. of phenobarbital, and both placebos for an average of 21 days.

Results. In MP-809 group, 26 patients

(52%) showed moderate to marked improvement. Slight improvement cases were not considered. Divided into sub-categories, 23 of 31 neurotic depressions (74.1%), 2 of 5 psychotic depressions, and 1 of 14 schizoaffective patients showed significant improvement. The drug seemed to have little effect in schizophrenic apathy and retardation.

In the potent placebo group, 15 patients (30%) showed moderate to marked improvement (10 neurotic depressions, 4 psychotic depressions and 1 schizoaffective).

In the inert placebo group, 11 patients (22%) showed moderate to marked improvement (7 neurotic and 4 psychotic depressions).

Statistical analysis of data using χ^2 method showed that when all patients were considered, comparison of the drug with inert placebo was significant at $0.01 > P > 0.001$ level, and with potent placebo at the level of $0.05 > P > 0.02$. In the subgroup of neurotic depressions, the comparison of the effect of MP-809 with both placebos was highly significant at the level of $P < 0.001$ ($\chi^2 = 11.16$ for potent, and $\chi^2 = 16.5$ for inert placebo).

Side effects were mild and consisted of fine hand tremors in 10 patients, drowsiness in 8, weakness in 6, dizziness in 5, fatigue in 4, nausea and vomiting in 5, generalized pruritis in 2, diarrhea in 2 and ankle edema in one. In potent placebo group drowsiness and signs of barbiturate intake appeared with doses beyond 50 mgm. daily.

Laboratory data (alkaline phosphatase, W.B.C. and differential, transaminase and urinalysis once a week) showed appearance of bile pigments in urine in 3 patients which disappeared while on the drug, and a tend-

¹ McGill University, Dept. of Psychiatry, Allan Memorial Institute, Psychopharmacology Section.

² Manufactured by Sandoz Pharmaceuticals.

ency towards neutropenia in one patient not requiring discontinuation of the drug.

SUMMARY AND CONCLUSION

1. A new substance, MP-809, a tryptamine derivative, was investigated in 50 depressed patients, as compared to two other groups of 50 depressed patients receiving inert and potent placebo, in a multi-blind controlled setting.

2. Clinically MP-809 had a significant (marked to moderate) antidepressant activity in 52% of all patients and in 74.1% of neurotic depressions. Statistically the results were significantly in favour of MP-809 as

compared with the two placebos, and this significance reached the high level of $P < 0.001$ in neurotic depressions.

3. Side effects were frequent but minimal in their intensity.

4. The final conclusion was that MP-809 is a potent antidepressant agent particularly in neurotic depressive states.

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PLASMA IMIPRAMINE LEVEL IN SYNDROMES OF DEPRESSION¹

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Imipramine, N-(γ -dimethyl aminopropyl)-iminodibenzyl, can substantially improve psychotic depressive syndromes (1, 2). Still, 25% of cases show no improvement (4). We thought that absorption or rate-metabolism of imipramine might be factors in such instances. Accordingly, plasma imipramine levels were determined following a single oral dose. During therapy this procedure was repeated. Excretion studies were also performed.

Materials and Methods. Hospitalized patients were selected with psychotic depressive syndromes regardless of diagnostic criteria. Before therapy 100 mg. of imipramine was given orally and blood plasma imipramine content determined 2, 4, and 7 hours later. Subsequent imipramine therapy consisted of 50 mg. t.i.d. After 4 weeks, plasma imipramine levels were determined again in the same manner. Twenty-four hours' urine and feces excretion of imipramine were also determined.

Imipramine determination was done through the fluorescence of the drug and its

extractability into heptane(3). The concentration was measured in spectrofluorometer using wavelengths of 290 millimicrons for activation and 400 millimicrons for fluorescence. The unknown samples were run concurrently with reagent blanks and with plasma plus known amounts of imipramine. The method measures also N-(γ -monomethyl aminopropyl)-iminodibenzyl, N-(γ -aminopropyl)-iminodibenzyl, N-(γ -dimethyl aminopropyl)-2-hydroxy-iminodibenzyl(6, 7).

Results. Two groups were formed. Group A constituted 4 patients who responded well to subsequent imipramine therapy. Group B constituted 4 patients who proved refractory. The plasma determinations 7 hours after the single oral dose differed in the two groups significantly at the 5% level. Responders had 6.00 μ g. mean with 2.24 SD, while the refractory group had 13.00 mean with 2.39 SD. This difference continued during therapy. Similar difference was obtained after a single intramuscular 50 mg. dose. The responders showed consistently lower plasma levels than the refractory group. Twenty-four hours' urine and feces excretion showed a similar trend, e.g., a responding type excreted 20 μ g. in the urine and 180 μ g. in the feces. A refractory type excreted 35 and 230 μ g. re-

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spectively.

Discussion. The finding that patients responding to imipramine therapy have lower plasma levels of the drug than refractory patients is interesting. A differential drug distribution and binding is a possible reason. It was shown in a case of suicide with imipramine(7) that drug concentration in the CNS was 50 times larger than in blood plasma. The different parts of the brain varied. The cerebellum contained 3 mg.%, the basal ganglia 13.1 mg.%. It is conceivable that the organ affinity of imipramine may vary according to the functional state of the CNS as modified by a particular psychopathology. Depression follows a variety of psychopathology and even after the lifting of depression the original psychopathology remains(4, 5). In this study the refractory patients showed schizoid pathology, while the responding cases a melancholic type. At any rate, the results show that insufficient absorption could not be the cause of refractoriness. Further clarification is attempted on larger groups.

SUMMARY

Imipramine plasma level was determined after a single oral dose. Patients who responded to subsequent imipramine therapy showed low plasma levels, refractory cases showed high levels. The low plasma levels of responders continued during therapy. Their imipramine stool and urine excretions were also low. A differential binding of the drug according to psychopathology was discussed.

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CHLORDIAZEPOXIDE AS ADJUNCTIVE THERAPY IN CONVULSIVE DISORDERS¹

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In the first symposium on the actions of chlordiazepoxide (Librium®) Rosenstein (1) described its anticonvulsive properties. Since then we have studied 86 epileptics for periods up to 16 months, using chlordiazepoxide alone or in combination with standard anticonvulsive medication. Twenty-six of our patients were severely ill mentally and were hospitalized at Central Islip State Hospital. Fifty-nine subjects were outpatients and were not classified as suffering from mental illness. Our patients included 43 females and 43 males ranging in age from 5 to 66 years.

Chlordiazepoxide was given orally in doses from 10 to 60 mgm. daily. In a small group of patients with mild or infrequent seizures, the compound was given alone after cautious withdrawal of other medication. In all but 9 patients, however, it could only be used as an adjunct.

Results. The effects of medication were evaluated both from an EEG and clinical standpoint. Serial EEGs were done in 30 of 60 patients. No specific predictable correlation could be shown between the normalization in the EEG record and clinical improvement.

Clinically, control of seizures was arbitrarily considered good if there were fewer than one attack per month; fair if no more than 2-4 per month; poor if they were more frequent than 5 per month. The total breakdown of clinical results is presented in

¹Supplies of chlordiazepoxide were obtained through the courtesy of Hoffmann-La Roche, Nutley, N. J.

²From the clinical and laboratory facilities, Research Division, Central Islip State Hospital, Central Islip, N. Y.

Table 1. It can be seen that the number of

TABLE 1

DIAGNOSIS	NO. OF PATIENTS	RESULTS BEFORE LIBRIUM			SEIZURE CONTROL WITH LIBRIUM		
		GOOD	FAIR	POOR	GOOD	FAIR	POOR
Grand mal	57	8	20	29	21	23	13
Petit mal	10	1	2	7	3	6	1
Mixed							
Grand mal & petit mal	9	0	1	8	2	4	3
Psychomotor	7	1	3	3	3	2	2
Petit mal variant	2	0	1	1	1	1	0
Total	85	10	27	48	30	36	19

patients who had improved control of seizures was increased by the administration of chlordiazepoxide. Our findings, in general, are similar to those previously reported (2-5).

Side Effects. There were 43 instances of side-effects, which included: somnolence, 17 cases; ataxia and dysmetria, 7 cases; vertigo, 5 cases; irritability, 5 cases; restlessness, 2 cases; and fatigue, 2 cases. There was one episode each of headache, leucopenia, insomnia, facial flushing and jaundice (6).

CONCLUSION

Eighty-five of 86 patients starting treat-

ment were evaluated. One patient after 5 days of treatment developed clinical jaundice and was discontinued from the series. Prior to treatment 76 of 85 patients (89%) had fair or poor control of seizures. Following the use of chlordiazepoxide 56 of 85 patients (66%) had fair or poor control. The dosage used was 10 to 60 mgm. daily. Chlordiazepoxide appears generally to be compatible with the currently available anticonvulsive agents. Undesirable side effects, such as somnolence, ataxia and vertigo, were mild and relatively insignificant except at the highest dose. In spite of this chlordiazepoxide appears to be an effective adjunctive treatment in seizure disturbances.

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ANTIDEPRESSANTS AND ELECTROSHOCK

PATRICK FLYNN, M.B., AND SOLOMON HIRSCH, M.D.¹

In reading many papers in psychiatric journals over the past few years, we have been impressed by the large number of exceedingly favourable reports concerning the efficacy of antidepressant drugs. Indeed, as far as this group is concerned, we have the impression that the published reports even outdo the manufacturers' advertisements at times! Recoveries, remissions or marked improvements of the order of 80% and over are usual (1-5), and it is not uncommon to find authors suggesting that electroshock as a treatment for depression is "almost superfluous" and should be con-

sidered obsolete (6). In our experience, favourable results with antidepressants given in the recommended dosages and for an adequate length of time (as suggested by the manufacturers) did not approach the percentages mentioned. On checking with about a dozen of our colleagues to learn their experiences we found impressions similar to our own—roughly half of the patients with depression who formerly would have had EST responded to the drugs: the other 50% did not respond in spite of adequate trial and often after a change in antidepressant medication. Practically all the patients who failed to respond to the drugs later had a successful outcome with EST.

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We questioned then why our results contrast markedly with those reported in the journals, and in view of the obvious therapeutic response with EST, why it should be condemned out of existence. To be sure it may be criticized on its "alien" nature as one author describes it⁽⁷⁾ but harmful sequelae of EST are minimal in contrast with those of the antidepressants as a group. It is worth noting that 3 such antidepressants, Marsilid, Catron and Monase, which at times were hailed as giving "astonishing results" have been taken off the market because of toxicity. We suggest that the following factors may have contaminated the results as reported in the journals:

1. Many depressions are self limiting or episodic and may remit without any therapy. It is reasonable to suppose, then, that treatments which take more than a few weeks to produce their maximum effects will get many undeserved therapeutic credits.

2. Other factors besides drugs may influence the depression. Again if the patient is on a drug, it will get the credit rather than these other factors⁽⁸⁾.

3. We suspect that investigators who get good results with drugs tend to report the drug trials; those who get poor results do not usually bother to report them in the journals.

4. The type of rating scale used: In many studies, as has been noted by Smith⁽⁹⁾, patients who improve are graded as showing marked improvement, moderate improvement, mild improvement, and questionable improvement or no change. On such a scale the odds favour improvement.

5. Adequate follow-up studies have not been provided. The results within the first month or two may well have been "excellent" only to revert to "fair" a month or two later.

We do not dispute the fact that the anti-

depressant drugs play an important role in the therapeutic armamentarium of a psychiatrist, but we do question the large percentage of excellent results reported and the suggested obsolescence of EST. Many of our cases would have had a quicker recovery with EST, while for some patients it was the only therapy that was followed by a remission. We would like to emphasize that it takes from 6 to 10 weeks to complete a trial of two antidepressants allowing for excretion of a MAO inhibitor, should that have been used at first. We seriously question "the safety" of antidepressant medication which is often contrasted with "the dangers" of EST. From experience with our patients, half a dozen seizures suitably controlled appear to us to have relatively mild and transient side effects. Although it is understandable but most unfortunate, it appears that the literature tends to be biased by the fact that those who get good results from one given therapy tend to report the fact much more readily than those who do not. The writers hope that this note encourages further expressions of opinion on the efficacy of antidepressant drugs as compared to EST.

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EXPERIENCE WITH CHEMOTHERAPY IN REFRACTORY PSYCHIATRIC DISORDERS

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Development of the new psychotropic

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drugs has made it possible to treat on an outpatient basis, a considerable percentage of psychotic patients who, a few years ago,

would have been hospitalized. The author has previously reported his experience in treating private office patients with the monoamine oxidase inhibitor isocarboxazid (Marplan) and with the first of the benzodiazepine group of compounds, chlorthalidoxepine (Librium). An analog of the latter drug, diazepam (Valium), has recently been administered to a selected series of 67 private patients, 60 of whom had previously been treated over a considerable period with the parent compound, so that in effect they could act as their own controls in an evaluation of the new agent.

The diagnostic categories included 16 schizophrenics of various types, 9 other patients with psychotic symptoms, and 42 with psychoneurotic reactions of anxiety-tension, depression and panic, and personality and involuntional disorders. Almost every patient in the series suffered from a long-standing, severe and refractory emotional disturbance which had failed to respond to a succession of the indicated therapies. Several had been hospitalized for ECT or ICT.

Initial dosage of diazepam was usually 10 mg. two or three times a day, with maintenance intake 5 to 10 mg. daily. In 14 patients with severe depression isocarboxa-

zid was used adjunctively with diazepam, both drugs administered in the lowest effective amounts (the usual dose was 5 or 10 mg. of each drug per diem). Duration of therapy ran up to 11 months. A battery of laboratory tests was done in 32 patients, who were also given frequent physical examinations.

Good or excellent response was noted in 70% of the series, and symptoms were relieved over the whole range of diagnoses (Table 1). In the depressed patients combined therapy relieved all 14 patients, with good to excellent results in 12. Patients with comparable depression states on diazepam alone showed good or excellent results in only 7 of the 13.

Side effects were drowsiness in 5 patients, slight transient ataxia in 2, skin rash in 1, and stiffness of the jaw muscles in 1. Findings of the laboratory tests were well within normal limits.

While diazepam had a strong sedating effect especially desirable in tense and anxious patients, it did not cloud the sensorium; on the contrary, several patients remarked that the drug had "cleared their minds" better than any drug they had taken. Others were able to work well in

TABLE 1
Results of Diazepam Therapy in 67 Psychiatric Patients

DIAGNOSIS	NO. PTS.	EXC.	GOOD	FAIR	POOR	NOT EVAL.
Congenital convulsive disorder	1					1
Psychotic depressive reaction	6		2	3	1	
Manic-depressive, depressed	2		1	1		
Schizophrenic, paranoid	6	1	3	1	1	
Schizophrenic, chronic undifferentiated	6	1		3	2	
Schizophrenic, catatonic	1	1				
Schizophrenic, pseudoneurotic	2	1	1			
Schizo-affective reaction	1	1				
Involuntional syndrome	2		2			
Schizoid personality	2		1		1	
Anxiety-tension reaction	15	6	8	1		
Anxiety reaction, panic	6		4		2	
Depressed state	11	3	6	1	1	
Anxiety-depression reaction	6	3	2		1	
Total	67	17	30	10	9	1

47
(70%)

25 psychotic patients :
42 psychoneurotic patients :

Good to excellent : 48%
Good to excellent : 83%

psychotherapy for the first time, and still others overcame phobias which had kept them housebound and were able to go away on trips or to find and keep jobs, something previously impossible for them.

The analog was felt to be more potent

than the parent compound, especially in the psychotic and borderline cases. In a few instances the patient and clinician agreed that diazepam was more than they needed, and the patient was put back on chlordiazepoxide.

COMPARISON OF TEMPORAL FACTORS IN DEPRESSIVE PSYCHOSES TREATED BY EST AND ANTIDEPRESSANT DRUGS

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.¹

This study is part of a comprehensive investigation of manic-depressive psychosis. It is concerned with a comparison of temporal factors in depressive psychoses in females during a characteristic EST period and during a period in which antidepressant drugs² had largely replaced EST as the specific therapy. The first study period consisted of 3 years, from July 1, 1952 to June 30, 1955; the second extended from March, 1959 to June 30, 1960. The course of each patient during the 2-year period which followed her admission to the hospital was recorded and tabulated.

The results are summarized in Table 1. During the first period of study, 119 patients were admitted to the hospital; during the second, 72. Prorating the second period to an equivalent 3 years reveals that the number of admissions with depressive psychoses rose approximately 37%; this did not quite match the overall rise of 46% in total admissions of female patients.

Block 2 in the table reveals that only 6% of patients received EST during the drug period—all of these during the first few months. After Aug. 1959, EST was discontinued in the treatment of depressions on the female admission service of this hospital.

The figures in blocks 3, 4 and 5 indicate that the length of hospitalization was definitely shorter in the drug than in the EST period. As noted in a previous report,³ this reduction in duration of hospitalization in recent years may also be attributable to

changing administrative and professional attitudes. However, in earlier years patients were frequently retained in the hospital until EST-induced confusion and amnesia had subsided. This problem, of course, is not encountered with the use of antidepressant drugs. In the EST period, 60% of patients had a total hospitalization of more than 3 months during the 2-year period of observation, as compared with 31% in the drug era. Protracted individual hospitalizations (longer than 6 months) totaled 24% in the EST period, as compared with 10% in the drug period. The average length of total hospitalization during the drug era was only 37% of that observed during the EST period.

Block 7, which summarizes the patients' status at the end of 2 years of follow-up, reveals that 20% of the EST group were still hospitalized, as compared with only 6% of the drug-treated group. Mortality rate was approximately the same for both groups. It is pertinent to note that one patient in the drug-treated group committed suicide.

With respect to readmissions, there appears to be a slight advantage in favor of the EST group. Concomitantly, the average number of hospitalizations during the 2-year period of observation was slightly higher in the drug group.

It may be conservatively concluded, therefore, that the duration of hospitalization in female patients with depressive psychoses has not been lengthened during the current era of antidepressant drug therapy, even after due allowance has been made for certain recent alterations in administrative and professional attitudes concerning early release of patients into the community.

¹ Fairfield State Hospital, Newtown, Conn.

² Marplan and Tofranil were the drugs used.

³ Oltman, J. E., and Friedman, S.: *Am. J. Psychiat.*, 119: 174, 1962.

TABLE 1
Statistical Comparison of EST-Treated Depressions (1952-55) and Drug-Treated Depressions (1959-60)
During a 2-Year Period Following Admission to Hospital

		EST GROUP	DRUG GROUP
1. Total no. of patients		119	72
2. Specific treatment	EST	88—74%	4—6%
	Drugs	0—0%	59—82%
	Both	0—0%	1—1%
	None	31—26%	8—11%
3. Total time in hospital during 2-year period following admission date.	0- 30 Days	7—6%	11—15%
	31- 60 "	15—13%	20—28%
	61- 90 "	25—21%	19—26%
	91-180 "	25—21%	8—11%
	181-365 "	23—19%	12—17%
	366-730 "	24—20%	2—3%
4. Average total length of hospitalization (days)		205	75
5. Number of short hospitalizations (<60 days) (percentages in terms of total no. of hospitalizations)		34—22%	67—63%
6. Number of protracted hospitalizations (percentages in terms of no. of hospitalizations)	6 months-1 year	17—11%	9—8%
	1-2 yrs.	11—7%	2—2%
	2 yrs.	9—6%	0—0%
7. Status at end of 2-year period	Home	82—69%	60—83%
	Hospital	23—20%	4—6%
	Convalescent (or domiciliary)		
	home	4—3%	1—1%
	Deceased	10—8%	7—10%
8. Multiplicity of hospitalizations	1 admission only	91—76%	50—69%
	1 readmission		
	{ within 30 days	2	6
	{ after 30 days	19	9
		—18%	—21%
	2 readmissions	5—4%	5—7%
	3 or more readmissions	2—2%	2—3%
9. Average no. of hospitalizations per patient		1.30	1.47

CASE REPORTS

THROMBOSIS OF THE INTERNAL CAROTID ARTERY

R. NATARAJAN, M.D.¹

Angiography has taught us much about the symptomatology of occlusion of the internal carotid artery; it may produce no symptoms or may be followed by variable complications. Simple occlusion may produce no sequelae if the circle of Willis functions efficiently and if adequate collateral circulation is established. If the individual is a child or young adult, ligation of the artery usually produces no untoward effect. Progressive obliteration of the lumen by atheroma often causes recurrent transitory disturbances due to localized cortical ischemia, e.g., aphasia, confusion or contralateral paresthesia or weakness. There may also be transitory amblyopia in the ipsilateral eye.

A 39-year-old, white, married farmer was admitted to Yankton State Hospital at the end of 1961 on a regular commitment for an acute psychotic breakdown.

The patient suddenly became ill 2 weeks before admission when he was unable to give instructions to some boys on how to choose cattle. His words came out in a garbled fashion and could not be understood. When the boys made fun of him he became aggressive towards his children. He was aware that his sentences were not coming out as he intended, and that he could not find the proper words to communicate his ideas. He tried to pump a glass of water, felt his right hand weak and numb and could not hold the glass. The aphasic disturbance and paresis of his right hand lasted only a few minutes. His wife stated that the patient was in a confused and dazed state, was unable to remember dates, and misidentified people. These symptoms recurred on several occasions.

Previous illness. About a year ago he observed one day, while coming down the hill after hunting, that he suddenly lost his vision in his left eye, lasting 10 to 15 minutes. In

the last year he had been experiencing difficulty in naming familiar objects and his memory, especially of names, was impaired. These difficulties seemed to come on periodically.

Neuropsychiatric Examination. On admission the patient was a little withdrawn, irritable and not able to relate to his environment and his illness adequately; a complete neurological examination revealed: exaggerated reflexes on the right side of the body; a positive Babinski on the right side; the motor and sensory systems did not reveal any other abnormality and the cranial nerves were intact. Two weeks after admission his reflexes continued to be overactive, but the Babinski sign disappeared and, also, he gradually recovered from his aphasic disturbance so that he was able to name familiar objects, which he formerly could not do; there was no residual weakness in his right hand; he was no longer confused or disoriented and appeared more or less normal physically and mentally.

Arteriogram of the left internal carotid artery a month later showed an occlusion just distal to the bifurcation of the common carotid. The patient was operated on after a few days, "incision was then made over the bifurcation into to internal carotid to expose a yellowish, tough structure which completely occluded the artery."

Treatment is not yet agreed upon. Attempts at removal or replacement with graft have usually been disappointing. Whether sympathectomy in patients with recurring temporary symptoms will prove beneficial remains to be demonstrated. Milikan, *et al.*, have recommended treatment of the syndrome of "intermittent insufficiency of the internal carotid system" with anticoagulant drugs.

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LOSS OF FEELINGS OF OMNIPOTENCE AND FORENSIC PSYCHIATRY

IRWIN N. PERR, M.D., LL.B.¹

A rather unique lawsuit² involving psychiatric testimony is herein presented. The facts of the case are those reported by the appellate court; the findings of the psychiatrists and the rationale for their reasoning is unknown to the writer. However, the material presented is that which is part of the legal record, spread now in various books throughout the land to serve as reference for future generations of lawyers and writers. It reflects the fact that almost every medicolegal case incorporates the opinions of the medical experts involved and that what is said in the sanctity of the courts remains forever (if commented upon by an appeals court) to serve as a memorial to the efforts of the participants. Every doctor who serves as witness must keep this in mind.

The court, before reviewing the facts, noted, "The insurer describes the claim as bizarre. If it is not that, it is an understatement to call it anything less than unique."

What had happened was this :

The truck of the defendant had swerved onto the right shoulder of a highway in order to avoid hitting school children alighting from a bus. The truck smashed several parked cars and finally hurdled into a gasoline station leaving a trail of widespread fire and destruction. The plaintiff, from Baton Rouge, was standing nearby and was not physically injured. "He was not touched in any way by anything. What happened to him, he says, was that on seeing this holocaust and the need for someone to rush in to help rescue victims, he suddenly became overwhelmed by fear and realized for the first time in his life that he was not the omnipotent, fearless man his psyche had envisioned him to be. His post-accident awareness that this event had destroyed his self-deceptive image of himself precipitated great

emotional and psychic tensions manifesting themselves as psychosomatic headaches, pain in legs and neck, a loss of general interest, a disposition to withdraw from social and family contacts, and the like.

"As it might have appeared to the jury of lay persons, the medical theory was that the accident had made [Mr. C] see himself as he really was, not as [he] had thought himself to be. In short, the accident had destroyed the myth. No longer was he the brave, invincible man. Now, as any other, he was a mere human, with defects and limitations and a faint heart. It was, so the [defendant] argued with plausibility to the jury, the strange case of a defendant being asked to pay for having helped [the plaintiff] by bringing him back to reality—helping him, as it were, to leave Mount Olympus to rejoin the other mortals in Baton Rouge.

"To this elusive excursion into the *id* of [the plaintiff], there were added many irrefutable, earth-bound events that made it sound all the more strange. At the time of the accident, he was a TV advertising salesman. Within a short space of time, he had changed employment. He became a president of a company, in which he was apparently personally interested, at a salary over twice as high . . . He bought and sold several pieces of real estate, had made \$25,000 in one trade, and had purchased . . . a new \$40,000 home. Within 9 months . . . he had successfully undertaken a campaign to become elected a city Councilman . . . The psychiatrists, acknowledging these external facts, then reasoned that this was a part of his struggle by which to recapture his lost self-esteem, and that while these things were most assuredly being accomplished, it was being done at further damage to [the plaintiff]."

This case was tried under the theory accepted in Louisiana and other states that one may recover for emotional damages not accompanied by physical injury. (In many other states, some physical injury is required as a prerequisite to such a lawsuit.) The court stated,

¹ Fairhill Psychiatric Hospital, Cleveland, O.

² C— v. Hardware Mutual Casualty Co., 264 F. 2d 152 (5th Cir. [La.] 1959).

The medical thesis was advanced with great earnestness by two psychiatrists, both of whom were apparently well regarded in the medical community. So that for our purposes here we may assume that on a proper showing of facts, or medical facts, or accepted medical theory as fact, the law may accommodate Blackstone and Freud to allow recovery for real psychic or psychosomatic harm.

The court continued.

The real controversy raged over the question whether [Mr. C] had really suffered any damage at all. The plaintiff said he was worse off and this episode had triggered this psychic mechanism. The [defendant], just as stoutly, claimed that [Mr. C] was better, not worse off, and that it was simply absurd to say that a truck owner should be held responsible for any such far-fetched consequences. This was the issue, then, of proximate cause. Finally, there was the question of the money award to compensate for the damages if any were found. From [Mr. C's] standpoint, this ranged from \$1900 covering numerous small items of medical, psychiatric, hospital bills, and car rental to a demand for \$75,000 to \$250,000 for mental pain and anguish. To the [defendant] the amount was zero.

The jury ruled for the defendant; this was upheld by the appeals court which reported the case.

As mentioned earlier, this case can be discussed only on the basis of the reported facts, and speculation as to other elements in the absence of definite knowledge is to be avoided.

Several medicolegal issues arise for our consideration. The liability for negligence is based on several elements—1. That the defendant had a duty to exercise a certain degree of care; 2. That as a result of a negligent act, whether of omission or commission, the defendant did not exercise that care with resultant injury to one entitled to such protection, and 3. The damage complained of was a direct and probable consequence of the injurious act.

The law as to psychiatric situations is oft unclear and confusing as unfortunately is the knowledge that we possess as to the relation of events and illness. As mentioned, in many states some degree of physical

contact is required before a defendant will be held liable for an "emotional injury." Nonetheless, a relation between a trauma and damage must be shown to be "probable"; mere possibility is not enough if one concedes a relation between a cause (a shocking accident) and an effect (a psychological reaction). Even though this be granted, this case raises the issue of what constitutes damage resulting from such an "injury." In what way was the complaining party damaged? To reduce the matter to absurdity, if a person undergoes a series of traumatic events and withdraws because of personality problems to a life of solitary and unhappy research culminating in a Nobel Prize, has the unhappy Nobel prize-winner been damaged or benefited? Or is it neither? Is he entitled to use one or more of the various psychological defense mechanisms without our worrying about moral or other judgments as to goodness or badness of the result. If lack of accomplishment is evidence of sickness and if accomplishment is a reaction to underlying sickness and is evidence of such, then the logical conclusion follows that innumerable life experiences are traumatic and detrimental. Probably, from the standpoint of society and our need to make a judgment in this regard, we cannot let such a philosophy (or medical theory or legal standard) be the basis of our regulating our society. However, this situation reflects one more instance where psychiatrists are forced into the role of social arbiters, a role that Szasz in his long series of articles feels inappropriate to psychiatry, but one which frequently is inseparable from the tasks clearly the responsibility of psychiatrists. It is hoped that cases such as these will stimulate discussion so that psychiatrists will, if nothing else, be better equipped to develop a more uniform attitude as to the nature of the testimony that we present to the courts. Perhaps too, reflection and study may help psychiatrists in formulating suggestions to our legal brethren so that both the law and psychiatry will synthesize to the fullest scientific knowledge and social responsibility.

PERIPHERAL EDEMA AND TACHYCARDIA DURING TRANLYCYPROMINE THERAPY

JOHN A. SOURS, LT., MC (USNR)¹

The use of tranlycypromine (Parnate) alone, or in combination with a phenothiazine, is well established. Its side effects, now well documented, include insomnia, epigastric distress, severe headache, palpitations, diarrhea, dermatitis(4, 5), hypertension, photophobia(2), constipation, leg cramps, nausea, anorexia(1), and ankle edema(6). A patient who developed hypertension, encephalopathy, pulmonary edema and coma while on tranlycypromine has been reported (7). Vogt has found that tranlycypromine aggravates the extrapyramidal side effects of trifluoperazine (Stelazine). In the following case, edema of the ankles, right knee and wrist, along with a tachycardia, appeared 10 days after starting tranlycypromine treatment.

A 28-year-old white, single male was discharged in January, 1962, from the hospital following medical treatment for an active, but uncomplicated, duodenal ulcer. In mid-February 1962, he again developed epigastric pain. Since his discharge from the hospital, he had been anxious, apprehensive, withdrawn, depressed, and prone to tearful outbursts. He contacted the physician who had cared for him during hospitalization and requested that he be readmitted. Physical examination was essentially negative. Urinalysis and CBC were within normal limits. A repeat GI series failed to reveal any evidence of a duodenal ulcer.

On examination, the patient was a thin, pale, youthful-looking man. His affect was quite constricted and, at times, inappropriate. He appeared depressed, stating that he felt guilty and inadequate about his "failures as a man." He readily acknowledged episodic suicidal feelings. He complained of difficulties in concentration, bewilderment, and pressure of thoughts. Several times, there were instances of blocking. Auditory hallucinations involved accusations that he was "homosexual." Primary and interpretative paranoid delusions were noted. He expressed concern with his bodily appearance and was preoccupied with somatic symptoms, especially epigastric distress. Mild obsessional traits were evident.

Higher integrative functions were fully intact. Diagnosis was schizophrenic reaction, acute, and psychophysiological reaction—gastrointestinal type. The patient was started on chlorpromazine (Thorazine) 50 mg., q.i.d.

On the 4th hospital day, chlorpromazine was increased to 75 mg., q.i.d., and tranlycypromine, 10 mg., q.i.d., was added. He was more agitated and depressed, feeling that he was "going to explode inside." Auditory hallucinations, however, had ceased on the 2nd day. Epigastric pain was no longer present. He expressed a great deal of apprehension about the possibility of a medical discharge from the U. S. Navy, and was particularly concerned with the prospect of having to return to his parents, toward whom he was quite ambivalent.

The patient complained, on the 10th hospital day, of swelling in both ankles, the right knee and wrist. He mentioned that he had palpitations which had persisted throughout the day. Physical examination revealed normal vital signs, except for a pulse of 130. There was 2+ edema of both ankles, loss of the contour of the right knee, and mild edema of the right wrist. Digits of both hands were puffy. No pain, heat or erythema was elicited in any joint. There was no hepatosplenomegaly. Repeat blood count was negative. Sedimentation rate was normal. Latex fixation test was within normal limits. An electrocardiogram demonstrated a sinus tachycardia. Tranlycypromine was discontinued and, within 24 hours, the edema and the tachycardia had completely subsided.

Although peripheral edema has been described with tranlycypromine and other antidepressant drugs(3, 8, 9), and palpitations have also been noted in association with tranlycypromine(5), there are no reports of both edema and tachycardia occurring simultaneously in patients receiving this drug. Edema occurs only rarely and responds promptly to withdrawal of the drug or a decrease in dosage, as does tachycardia, which is sometimes associated with hypotension. The side effects of tranlycypromine appear to be related to dosage; doses over 30 mg., q.i.d., increase the incidence and severity of the side effects(10).

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SUCCESSFUL SUICIDE WITH TRANILCYPROMINE SULFATE

G. A. BACON, M.D.¹

The patient was a 17-year-old white female previously seen by the writer and diagnosed as a neurotic depressive reaction. Treatment with tranilcypromine was recommended to the referring physician who prescribed this drug. The prescription called for 50 10 mg. tablets. Upon returning home from the doctor's office the patient immediately ingested all 50 tablets, but the effect was not noticed by the parents until some two hours later. At this time the patient was agitated, talking incoherently and appeared to be markedly tremulous. She was brought to the emergency room for treatment of her agitation. The referring physician, at this time unaware of the number of tablets ingested, prescribed for the agitation 1 grain of sodium luminal IM and 2 grains of sodium seconal IM over a period of 4 hours. The patient gradually became less agitated, but lapsed into coma. At this time the writer was again called into consultation and the patient was seen to be critically ill. She was comatose, sweating profusely, with a pulse of 120 per minute, a pulse deficit of 2 to 3 to 1, a blood pressure of 40/0, and with marked fine tremors over her entire body. She was

transferred to the intensive care unit and was given intranasal oxygen and levarterenol bitartrate (Levophed) ampules 3 in 5% glucose in the course of 3 hours. She also received 2 units of plasma. A hydrotherapy apparatus was utilized in an attempt to lower the patient's temperature which had risen to 110° F. Her tremors subsided and the temperature dropped from 110° to 107°; her blood pressure remained between 70 and 40/0 but she did not regain consciousness. Gastric lavage was unproductive, but it is to be noted that because of technical error, it was not performed until some 5 hours after the ingestion of the drug. Death occurred approximately 8 hours after ingestion of the 50 tablets.

It is noteworthy that death, which was most probably caused by the hyperthermia and circulatory collapse, was merely an exaggeration of the side effects that are seen with this drug in standard and intensive treatment dosages. There is no specific antidote for overdosage with this drug, and treatment consists of 1) gastric lavage, 2) support to the failing circulation, and 3) treatment of the hyperthermia. In this case, moreover, treatment was to no avail.

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COMMENTS

A "THAW" IN SOVIET PSYCHIATRY ? ¹

The death of Stalin in 1953 marked the end of a period in the Soviet Union that not only witnessed a succession of wars, but could be characterized itself as a protracted state of war against the many enemies of the new order. Centralized leadership, arbitrary rule, strict censorship, and suspension of many of the legal and civil rights to which we are accustomed marked this period. The present Soviet leadership accuses Stalin of terrible excesses and blunders. The Stalin period was also a time of restricted contact with the outside world. The present Khrushchev era coincides with the consolidation of Soviet power, a marked improvement in living standards and a corresponding relaxation of many of the restraints of the earlier period. During Stalin's time Soviet psychiatry, even more than other branches of science, preserved its ideological and national isolation, assailed the reactionary character of western psychiatry, and developed its own traditional Russian and Marxist methods and point of view, within a rather strict hierarchical administrative structure. An oversimplified philosophic materialism led to an almost total eclipse of psychology and psychotherapy as separate interests or sciences, associated with a very heavy concentration on classical Pavlovian approaches and a relative neglect or underestimation of other physiological, chemical, endocrinological, epidemiological, genetic, *etc.*, research in psychiatry.

Things are changing now, and Academician Parin's sweeping attack on past and present abuses should be read (Curr. Dig. Sov. Press, 14 : 22, 1962). I cite a few other examples :

In May 1962 an All-Union Conference on the Philosophical Problems of the Physiology of the Higher Nervous Activity and of Psychology was held in Moscow with the participation of leading representatives of all the interested disciplines. Professor

Bassin, the Moscow psychiatrist, in his report of this meeting (*Meditsinskii Rabotnik*, June 12, 1962), says that the conference endorsed the general aim of the Pavlovian conference called 12 years before, in 1950, but adds that the influence of this earlier conference in subsequent years was

adversely affected by the general conditions created by the cult of Stalin's personality. This bred dogmatism in the social and natural sciences, an uncritical attitude toward scientific authorities, and the resort to meaningless quotations as a substitute for independent research. Instead of solving scientific problems in an atmosphere of free discussion among competent specialists, the declaration of theoretical postulates became more or less the rule.

Among the consequences, said Bassin, was the neglect of psychology and the overemphasis of biology ; studies in higher physiological activity developed with too little contact with other approaches, and were especially remiss in neglecting cybernetics. In spite of the appeals of a few participants at the earlier conference the newer developments in psychopharmacology were not adequately pursued. It is not enough to criticize the Freudians, said Bassin, it is also important to cultivate Soviet research on unconscious forms of higher nervous activity. In spite of the productivity of Soviet Pavlovian work, he said,

The theory of the higher nervous activity should not be considered as the only possible method for the study of the functions of the higher regions of the nervous system. Other approaches to the problem must also be used.

Both method and theory should not only be developed through a variety of disciplines, but also "on the basis of diversified positions and from the point of view of diverse trends . . ." The conference also protested against a certain tendency to cling to scientific formulations that were new half a cen-

¹ Supported by NIMH Grant MY-2679.

tury ago but were now outmoded. A significant debate ensued, with distinguished names on both sides, on the desirability of revising some of Pavlov's original ideas on excitation, reinforcement, stereotypy, *etc.*, in the light of the newer physiology. The conference stressed the need for further theoretical discussion and emphasized the importance of the creation of multidisciplinary teams to work together on specific problems.

Soon after the conference a small multidiscipline committee including the psychiatrist Professor Fedotov met in the offices of *Meditsinskii Rabotnik*, the medical newspaper, to formulate more specific organizational proposals. This committee also stressed the need for the biological sciences to lean more heavily on the exact sciences of physics, chemistry, electronics and cybernetics. Professor Fedotov said Soviet scientists should publish more of their work in foreign journals. In again calling for more theoretical discussion in medicine, the committee noted that name-calling and labelling in the past had unfortunately discouraged theoretical discussion, and that this must now be avoided at all costs. According to the published account of this meeting² one of the members, Dr. B. Ia. Smulevich,

thought that the attitude toward foreign scientists was incorrect. They were being portrayed either as reactionaries or as vulgarizers of science. They are however often honest scientists who are seeking correct answers. Since it would be difficult for them to suddenly think along materialist lines, a friendly tactful attitude should be taken toward them, and their work should be analyzed and criticized with conscientious accuracy.

Dr. Smulevich also called for more attention to the social problems in medicine. The Soviet Academy of Sciences is accordingly planning a series of symposia on social hygiene, on the methodology of genetics, and on Pavlovianism and clinical medicine.

Unlike our American psychiatric literature, Soviet psychiatric journals have rarely given any attention to problems of psychology or personality. This lack is now

beginning to be remedied. Not long ago in Moscow a joint meeting of internists and psychiatrists was held on the subject of the psychology of patients. A recent little article by the Moscow psychiatrist and psychotherapist Professor M. S. Lebedinskii³ can be condensed as follows:

The patients' psychology must be understood by all physicians. Not only must the psychiatrist be a psychologist but the same is true of other medical specialists. As a matter of fact the cooperation of the physician and psychologist needs less emphasis in the case of the psychiatrist than in the case of other physicians. Soviet medicine has tended to neglect human psychology, but this fault must be remedied if we are to preserve the human dimensions in our medical practice.

In spite of the important fact that emotions can play an important role in very many diseases, our physicians too often either neglect or oversimplify this aspect of disease. All too often a medical procedure and even drastic surgical intervention has been prescribed for conditions that were basically neurotic. Moreover we have often induced iatrogenic illnesses because of our inept psychological understanding of a case. Even our recommendations for treatment must be adapted to the special sensitivities and susceptibilities of our patients. The whole hospital atmosphere should reflect a consideration of the psychological aspects of medical treatment. Courses in medical psychology should be required at our medical schools. Our medical journals and scientific societies should reflect much more interest in psychology. Medicine and psychology must be brought more closely together.

It cannot be said that Soviet psychiatry in recent years has changed its direction or abandoned any of its principle positions. Its tone however has become less dogmatic; it is more conscious of its ties to foreign science, more willing to give and take, and is beginning to show greater variety within itself. More specifically the recent period is characterized by a greater interest in psychology, personality and psychotherapy, by a belated but lively interest in psychopharmacology, and by an increasing interest in biochemistry. The supporting discipline of neurophysiology is very much interested in all aspects of modern technology and seems to be fascinated by cybernetics. Most important from our point of view is the

² Med. Rab., May 25, 1962.

³ Med. Rab., June 19, 1962.

eager interest of Soviet psychiatrists in reciprocal communication, interchange of personnel, and even in joint research. This should not be regarded as a mere tactic in the cold war: it reflects the serious conviction of Soviet scientists that they now must find their place in the international community of science.

Some of the old attitudes still persist.

There are also evidences of distrust and caution, and the slow and imposing machinery of government can produce functional blocks. Not all of the difficulties are on one side—but in spite of all this there is reason to believe that a thaw is here.

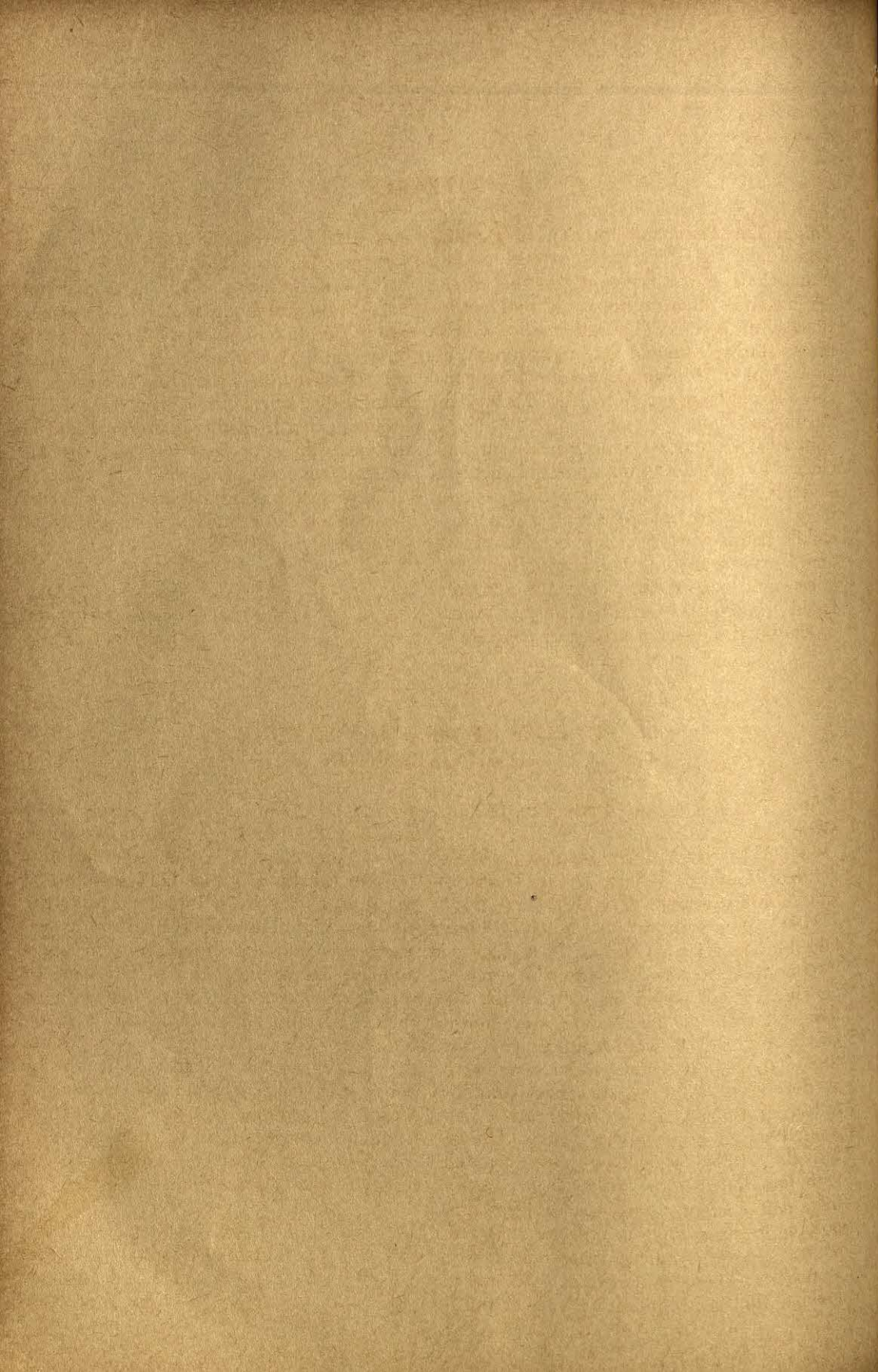
JOSEPH WORTIS, M.D.,
Brooklyn, N. Y.

Correction

NEWS AND NOTES

**BIOLOGICAL TREATMENT OF MENTAL ILL-
NESS.**—The fourth paragraph, Mrs. Louis S.
Gimbal, Jr., should read Mrs. Louis S.
Gimbel, Jr. In the fifth paragraph the name
Mr. William H. Lawrence, should read Mr.
William L. Laurence.

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CORRESPONDENCE

PITFALLS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I have read with interest the article "Pitfalls in Psychiatric Research" by Doctors Bigelow and Sainz. The authors cite Sauerbruch, the well known thoracic surgeon, as an example for the tendency of stating conclusions not supported by the findings or the presentation.

In 1930 I attended Sauerbruch's surgical clinics. I recall his examining four medical students in a crowded auditorium asking them to decide by inspection which of a child's hands was the sick one. The evidence was clear ; one hand was clean, the other hand was dirty. When the students failed to give the "right" answer, Sauerbruch became very angry and told them

authoritatively that the clean hand was the sore one because the child while playing had naturally not used the hand that hurt her. While everybody admired his sagacity, one of the students accidentally touched the dirty hand, and the child let out a yell. It was then revealed that this hand was so painful that it had never been washed. The professor fled from the auditorium, and for the next three or four days let the first assistant take over the clinic.

This experience apparently made no impression on Sauerbruch, as shown by his performance in 1945.

Kurt Nussbaum, M.D.,
Spring Grove State Hospital,
Baltimore 28, Md.

FOLLOW UP OF THIORIDAZINE ADMINISTRATION

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : The report of Dr. Stanley L. Block entitled "Jaundice Follow Up of Thioridazine Administration" (*Am. J. Psychiat.*, 119: 77, 1962) points up transient minimal serum bilirubin elevation (1.20 mg. %) and serum transaminase activity increase, the amount of which is not stated. In view of the author's statement "There was no clinical jaundice . . .," it would appear that the title of the report is inaccurate, in as much as the report does not describe jaundice following thioridazine administration. Although serum transaminase (*Am. J. Med.*, 27: 911, 1959) elevations are associated with hepatotoxicity resulting from chemotherapeutic agents, it is, nevertheless, important to stress that not all serum transaminase elevations necessarily reflect hepatotoxicity. There is increasing evidence to indicate that, concomitant with the adminis-

tration of chemotherapeutic agents, minimal elevations in serum transaminase may reflect alterations in cellular permeability of liver cells and/or metabolic handling of the drug by the liver. In several instances, continued administration of a drug associated with transient minimal serum transaminase has resulted in the return of the serum enzyme activity to normal with no further laboratory aberrations and no manifestations of hepatotoxicity. It is important that a drug not be indicted as hepatotoxic barely on the basis of minimal changes in serum transaminase activity and minimal transient elevations in serum bilirubin, especially when the clinical aspects and tests of liver disease remain normal.

Felix Wroblewski, M.D.,
Memorial Hospital for Cancer
and Allied Diseases,
New York, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I wish to express my thanks to Dr. Felix Wroblewski and the others for their interest in my article, "Jaundice Following Thioridazine Administration" (Am. J. Psychiat., 119 : 77, 1962). I will attempt to answer the questions asked and must take issue with some of the points raised in the letters.

1. The title of my article is not, in my opinion, misleading. Jaundice may be clinical or subclinical. I chose to use the generic term "jaundice" in the title. I was quite careful to indicate its subclinical nature in the body of the Case Report.

2. I am aware that transient changes in serum bilirubin and/or transaminase may occur without clinical significance. The patient, serving as her own control, had shown a remarkable consistency in both serum bilirubin and transaminase until the sudden increase in both values some 9 months after the initiation of treatment. A laboratory test merely serves as a guide for a clinical judgement; it seemed valid to make a clinical judgement of early hepatotoxicity. The return to her previous normal after discontinuing thioridazine therapy would be a further confirmation of the correctness of the judgement.

3. Nicotinic acid cannot be implicated as a cause of the bilirubin and transaminase

elevation since it was given uninterruptedly, and the levels returned to normal.

4. Metastatic carcinoma cannot be implicated as a cause of the bilirubin and transaminase elevation since the patient is still living, quite well physically without any current evidence of metastatic disease or abnormal liver function tests.

5. I am aware of Dr. H. Brunold's reservations about the jaundice case cited in his report. My citing this case was for completeness in the literature survey that was made in my opening paragraph.

I agree that thioridazine is a valuable psychopharmacological preparation. I agree that it has proved its worth as an effective and relatively safe phenothiazine. I have used this drug extensively in the past and continue to do so. My purpose in reporting was not to "indict." Rather my purpose was to alert my colleagues to the *possibility* of hepatotoxicity from thioridazine administration, and to "suggest the wisdom of periodic liver tests" as a precaution, conservative as the precaution may appear to some.

Stanley L. Block, M.D.,
Cincinnati, O.

Editor's Note :—Several letters were received making similar comments on Dr. Block's Case Report. The one first received is printed above. Dr. Block's reply refers to them all.

MODEL PSYCHOSES AND SCHIZOPHRENIA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : The paper by Luby, *et al.*, on "Model Psychoses and Schizophrenia" in your July 1962 issue may well prove to be one of the most significant contributions in its field. It suggests "the hypothesis of a disturbance in proprioceptive feedback mechanism in both the sernyl state and in chronic schizophrenia." May I as one who has done some work in this field be allowed the following brief remarks :

Hernandez-Peon, *et al.*, published in Acta Neurol. Latino-Am., 3 : No. 1, 1957, a

study on cats where electrodes were implanted in the visual and auditory areas of the brain and also in various subcortical locations. They were able to show that the responses to a flashing light recorded from the occipital cortex were almost abolished when the animal was given fish to smell. At the same time as this reduction was found in the cortical responses these authors state that the afferent leads in the optic tract and at higher levels in the optic pathway were reduced as well. The reduction in cortical activity is therefore apparently, in part at least, due to a reduction of afferent inflow.

Dawson (Proc. Roy. Soc. Med. Suppl., 531, 1958) now suggests that it thus seems that while the actual initiation of a switch in attention may occur at a high level, the process of reducing the inflow in one modality or in some part of that modality and of increasing the inflow through another modality is perhaps carried out at almost the lowest level in the afferent pathway.

Would it not appear that this work gives us a new working concept of the mechanism in a number of experimental and clinical states of psychological abnormality such as sensory deprivation, model psychosis, schizophrenia, conversion hysteria and hypnosis, all of which are conditions with an abnormal input at one level or another? In the two last mentioned conditions this abnormal input is localized while in the others

it is diffuse. Would not such a hypothesis be consistent with most of our clinical and research experience today, including the fact that some cases of schizophrenia appear easily understandable in psychodynamic terms while in many other cases this is not so, and an organic constitutional element must be assumed? Such a hypothesis also meets the requirement of being susceptible to experimental verification or falsification and indeed it is to be hoped that further neurophysiologic research with animals given LSD-25 or Sernyl and with schizophrenic patients undergoing brain surgery may cast further light on this problem.

S. E. Jensen, M.D.,
Newmarket, Ontario.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: I am gratified by Dr. Jensen's response to our paper on "Model Psychoses and Schizophrenia." His comments on the relationship between psychopathology and the control and switching of sensory input and attention are most pertinent. The weird and terrifying body image disturbances of the schizophrenic patient may well have

their basis in defective screening of afferent inflow particularly from proprioceptors.

Our research is continuing in the direction of testing this hypothesis which, as Dr. Jensen indicates, opens many avenues of exploration.

Elliot D. Luby, M.D.,
Lafayette Clinic,
Detroit, Mich.

NEWS AND NOTES

BIOLOGICAL TREATMENT OF MENTAL ILLNESS.—A unique assemblage to consider the present status and prospects of therapy in psychiatry was the International Conference sponsored by the Manfred Sakel Foundation and held at the Academy of Medicine in New York City, Oct. 31-Nov. 3, 1962.

During these four days leading psychiatrists from twenty-one nations met to report the results of current studies and leads for the future fuller understanding of the physiology of the mind in health and disease. It was a momentous meeting.

The fine organization of the International Conference was facilitated by the worldwide personal connections of the chairman, Dr. Max Rinkel of Boston, who is Medical Director of the Manfred Sakel Foundation.

Mrs. Louis S. Gimbal, Jr., Chairman of the Board of Directors of the Foundation, graciously attended and assisted throughout the Conference, the "heart and soul" of the Foundation, as Dr. Rinkel so appropriately noted in his opening address.

Guest speakers at the banquet in the Starlight Room of the Hotel Waldorf-Astoria at the close of the Conference were Harlan Cleveland, Assistant Secretary of State, William H. Lawrence, Science Editor of *The New York Times*, and Linus Pauling, Nobel Laureate, who carried forward the conference theme of more precise definition of psychiatric therapy through expanding study of the biochemical, molecular and genetic basis of human behaviour.

A report of the salient features of the Conference will follow in the January issue of this *Journal*.

INTERNATIONAL ASSOCIATION OF INDIVIDUAL PSYCHOLOGY.—A directory of the International Association has just been received containing the history of the Association, the constitution, a list of the member societies in Austria, France, Great Britain, Holland, Israel, Switzerland and the USA, committees of the International Association and periodicals.

Dr. Alexandra Adler is president, and Dr. Victor Louis, Zurich, secretary general of

the International Association.

The next international congress will be held in Paris, Aug. 30-Sept. 2, 1963.

MENTAL HYGIENE WEEK IN ATHENS, MAY, 1962.—Marie Nyswander, M.D., of N. Y. C. who attended reports: It was truly an interdisciplinary program with equal participation by professors of public health, medicine, surgery, and psychiatry. In several of the meetings patients participated individually and in groups. This was made possible by the holding of several meetings in the mental hospital, Dromokaiteion, which is located just outside of Athens.

For the event a small booklet was issued with translations from the ancient Greek relative to public and mental health. This was prepared by Professors George Belios and P. Alivisatos. Central to all the meetings was Dr. George Lyketsos, medical director of Dromokaiteion Hospital, who functioned with characteristic Greek graciousness as host, lecturer and translator.

A. E. BENNETT AWARD.—The Society of Biological Psychiatry offers an annual award which was made possible by the A. E. Bennett Neuropsychiatric Research Foundation. The award will consist of \$500 part of which is to be used for traveling expenses to the meeting. It will preferably be given to a young investigator and not necessarily a member of the Society of Biological Psychiatry, for work accomplished recently and not published. The paper will be read as part of the program of the annual meeting of the Society and will be published with the other papers read at that meeting in the book: *Biological Psychiatry*, Volume VI. The honorarium will be awarded at the annual banquet. Please submit paper in quadruplicate to Harold E. Himwich, M.D., Chairman, Committee of Award, Galesburg State Research Hospital, Galesburg, Ill. Deadline for manuscripts is March 31, 1963.

ANNALES MOREAU DE TOURS.—The Society Moreau de Tours is the French Academy

which concerns itself with psychopharmacology.

An excellent compilation of the work of the past few years has just been published under the above title. This is edited by Drs. Baruk and Launay. Dr. Nathan S. Kline has called our attention to this book which American psychiatrists will wish to know about.

COLLEGIUM INTERNATIONALE NEURO-PSYCHOPHARMACOLOGICUM.—At the Third International Congress of the Collegium held in Munich, Germany from Sept. 2-5, 1962, Dr. F. A. Freyhan, Washington, D. C., was re-elected as secretary for the period 1962-1964.

The 1964 International Congress will be held in Birmingham, England, date to be announced.

Please direct any questions to Dr. F. A. Freyhan, c/o Saint Elizabeths Hospital, Washington, D. C.

INTERNATIONAL SYMPOSIUM.—An International Symposium will be held at the Galesburg State Research Hospital, Galesburg, Ill., March 1-3, 1963, on the subject of Developing Brain and Binding Sites of Brain Biogenic Amines. All interested are invited to attend. In addition to the formal participants other investigators with new data on either of these two topics are invited to submit brief discussions of five minutes by Jan. 15, 1963. In order to extend the opportunity to other institutions to invite one or more of the distinguished foreign participants, the following list is presented:

Dr. P. K. Anokhin, Moscow; Dr. H. Blaschko, Oxford; Dr. A. Carlsson, Goteborg; Dr. E. DeRobertis, Buenos Aires; Dr. N. A. Hillarp, Stockholm; Dr. P. Holtz, Frankfurt; Dr. L. Jilek, Prague; Dr. A. Pletscher, Basle; Dr. J. P. Schadé, Amsterdam; Dr. J. Scherrer, Paris; Dr. V. P. Whitaker, Cambridge.

For pre-registration please contact Harold E. Himwich, M.D., Director, Research Division, Galesburg State Research Hospital, Galesburg, Ill.

COLLOQUIUM FOR GRADUATE TEACHING OF PSYCHIATRY.—The American Psychiatric As-

sociation Committee in Liaison with the American Academy of General Practice is sponsoring a colloquium for teachers of post graduate psychiatry February 16 and 17, 1963 at Los Angeles. Participation in the colloquium will be limited, and early pre-registration is necessary. No funds are available for participants' travel and per diem expenses. There is a registration fee of \$15.00. Meetings will be held on the School of Medicine campus of the University of Southern California. Hotel arrangements should be made by participants themselves. The Statler Hilton Hotel in downtown Los Angeles will be most convenient to the meetings and is recommended.

For information write to Werner M. Mendel, M.D., 1934 Hospital Place, Los Angeles 33, Calif.

DR. SNOW TO DIRECT THE HUDSON RIVER STATE HOSPITAL.—Dr. Herman B. Snow, director of the St. Lawrence State Hospital since 1954, was appointed to succeed Dr. Robert C. Hunt at Hudson River who retired after 5 years as its director. Dr. Snow assumed his new duties October 11. He is a graduate of Syracuse University and received his M.D. from that university in 1933. Since 1934 he has been in the New York State service, and from '49-'51 was acting medical inspector. He received the Adolf Meyer Memorial Award in 1959 for his work in connection with the open door hospital at St. Lawrence.

DR. MARY M. WOLFE.—The death of Dr. Wolfe, a former president of the American Association on Mental Deficiency, occurred at her home in Lewisburg, Pa., October 18, 1962. She was a life fellow of the APA. A graduate in medicine from the University of Michigan, she received in 1933 the honorary degree of Doctor of Science from Bucknell University, which was founded by her great grandfather in 1846, and of which she had been a trustee since 1935.

Dr. Wolfe became the first superintendent of the Laurelton State School in 1914, retiring in 1940. She had served on the staff of Norristown State Hospital from 1899 to 1910. At the International Congress on Nervous and Mental Diseases at Lima,

Peru, in 1938 Dr. Wolfe was the only American woman delegate. She was a member of the American Association of University Women and of the Daughters of the American Revolution.

1962 MENTAL HOSPITAL SERVICE ACHIEVEMENT AWARDS.—The 1962 awards to institutions for notable contributions to psychiatry were given to The Lynchburg, Va., Training School and Hospital—APA Gold Achievement Award; The Reiss-Davis Clinic for Child Guidance—APA Silver Achievement Award; The D. C. Legal Psychiatric Service of the Bureau of Mental Health—APA Bronze Achievement Award.

The ceremonies associated with these awards are described in full in the Oct. '62 issue of *Mental Hospitals*.

THE GUTHEIL MEMORIAL LECTURE.—On October 28, 1962, in New York City, Dr. Leo Kanner, Professor Emeritus of Child Psychiatry, Johns Hopkins University, delivered the Gutheil Memorial Lecture under the title "The Scope and Goal of Psychotherapy with Children." Dr. Kanner was the third recipient of the Gutheil Memorial Medal, the first two having been Dr. Nolan

D. C. Lewis and Dr. John C. Whitehorn. The lecture was given at a conference sponsored by the Association for the Advancement of Psychotherapy, dealing with the general topic "The Acting-Out Patient—A Study of Biodynamic Mechanisms in Therapy."

ISRAEL S. WECHSLER LECTURE.—The 8th Annual Israel S. Wechsler Lecture is to be given on the evening of December 7, 1962, at 8:30 P.M., in the Blumenthal Auditorium of the Mount Sinai Hospital of New York City by Dr. Seymour S. Kety, Chief of the Laboratory of Clinical Science at the National Institute of Mental Health, Bethesda, Maryland. His subject is "Amino Acids, Amines and Behavior."

AAAS MEETING.—The research committee of the APA is sponsoring a session entitled "Human Reactions to the Threat of Impending Disaster" at the annual AAAS meeting in Philadelphia. Dec. 27-28, 1962.

BIOGRAPHY OF ADOLF MEYER.—The address of the authors of this biography listed in the November news items has been changed to Box 189A, Route 2, Owings Mills, Md.

BOOK REVIEWS

MILIEU THERAPY IN SCHIZOPHRENIA. By Lt. Col. Kenneth L. Artiss, M.C. (New York: Grune & Stratton, 1962, pp. 169. \$6.00.)

Dr. Artiss' second venture into publication is again a noteworthy event. His own personal experience translated into this brief monograph, with acknowledgements to the assistance of others, offers a challenge for psychiatrists to leave the security of established psychiatric theories and venture into a new method of treatment.

The author carefully reviews his experiences in establishing an experimental therapeutic milieu for treating schizophrenic military patients, organized as a separate entity within the psychiatric department of Walter Reed Army Hospital. One follows the evolution of the program as various hurdles are met and surmounted in the selection and management of patients and the organization and education of professional staff. Interpersonal relationships between all individuals concerned are explained.

Of 42 patients who were treated, 27 (64%) were returned to duty. Since the patients in this pilot study were selected without attention being paid to criteria of treatability, it is reasonable to assume, as the author suggests, that in a more select group a higher recovery figure might be attained.

One unique feature of this program is the emphasis on the ward aide personnel serving in an active psychotherapeutic role by being available for discussion in which the patient is directed to reflect upon his own feelings. Another innovation is the democratic "patient government" operation in which the group, the leaders of which are selected by the patient group, plans and decides the social activities for the evenings and all periods of time not reserved for patient psychotherapy.

Milieu therapy also becomes a prognostic tool. It enables the therapist to observe the psychologic functioning and adaptation of the patient and makes use of the resources inherent in group living. A cited example is the fact that the patient who can successfully assume leadership responsibility within the group is one whose prognosis is favorable for continued social adaptation and return to military duties.

The peculiar environment of a military setting, with its usual red tape and administrative

interference, is surmounted with aplomb. We are particularly fortunate that Dr. Artiss' high threshold of anxiety permits him to share with us some of his inner feelings and thoughts as the project progresses in its successive phases. While seeming to minimize his importance, we learn how one psychiatrist molds a group of nurses and particularly ward aides to obtain a therapeutic environment in which to treat schizophrenics. In doing this, note is made of earlier pioneering by Harry Stack Sullivan.

In discussing possible civilian application of this study, Col. Artiss emphasized three points:

1. The therapist or therapeutic agency should have a known goal for its treatment efforts.
2. Education in the rudiments of successful social behavior should be made a part of the treatment regimen.
3. Place the patient in a position where he has both a regular opportunity to interact with a healthy group and the responsibility to do so.

The author deserves credit for amply demonstrating that one may be a successful non-conformist even in the bailiwick of the military bureaucracy. One only regrets that the brevity of the book affords only a glimpse of how he accomplishes this feat.

INGRAM COHEN, M.D.,
New York.

ACCIDENT PREVENTION. American Public Health Association. (New York: McGraw-Hill, 1961, pp. 400. \$12.00.)

This is a unique book in many ways, not the least of which is the origin and sponsorship. It has been prepared under the direction of the Program Area Committee on Accident Prevention and is authorized for publication by the Technical Development Board of the American Public Health Association. It also makes the claim of being the only book written primarily to serve physicians and public health workers.

The primary objective of the book is "to provide a text for inclusion in courses dealing with accident prevention principles and concepts in the curriculum of medical schools, schools of public health, and other schools dedicated to the professional education."

As would be expected by the sponsorship this is a multiple author effort with some thirty writers gathered from medical, preventive medical, lay and official organizations con-

cerned with some aspect of accident prevention and control. The book has all the advantages as well as disadvantages of this technique of authorship. On the positive side is the gathering of information from a wide range of authorities. From the negative point of view is the variation in style and considerable redundancy, particularly in the presentation of statistics which are covered fairly comprehensively in the opening chapter and then repeated by many of the contributors.

Of special interest to psychiatrists is the attention to the personal factors involved in many accidents. This phase of the problem is given due but not excessive attention.

This book is of a calibre that it certainly should be included in the library of all workers and teachers concerned with the accident problem. It is not one that will have wide general appeal.

G. E. HOBBS, M.D.,
University of Western Ontario,
London, Ont.

BEFINDEN UND VERHALTEN. Edited by J. D. Achelis, and H. von Dittfurth. (Stuttgart: Georg Thieme Verlag, 1961, pp. 110. \$3.70.)

This book contains one symposium ("Gespräch") of the many recently arranged by pharmaceutical concerns, in this instance by Boehringer (Mannheim). Various papers were presented. Schleidt (Seewiesen) dealt with innate modes of behavior as influenced by drugs. v. Dittfurth (Mannheim) offered an orientation on the problems of pharmacopsychiatry. v. Holst (Seewiesen) expanded on the "psycho"-physiology (the quotes are v. Dittfurth's) of the thalamus of hens. Pluegge (Heidelberg) and Mappes (Munich) reported on heart-disease in children and tried to appraise its impact on the grown-ups. Bilz (Mainz) essayed to identify certain elements in hypnagogic experiencing with elements in psychotic experiencing.

In the discussion questions and comments made by v. Auersperg (Concepcion, Chile), v. Baeyer (Heidelberg), Lorenz (Seewiesen), Th. v. Uexkuell (Giessen) were challenging and impressive, although the discussions were not skillfully m.c'ed. Summaries were apparently deemed undignified. The prevalence of an anthropomorphic attitude in some quarters was considerable. "Aneinandervorbeireden" is not entirely avoidable under such circumstances.

EUGEN KAHN, M.D.,
Houston, Texas.

THE STAGES OF HUMAN DEVELOPMENT BEFORE BIRTH. By E. Blechschmidt. (Philadelphia: W. B. Saunders, 1961, pp. 684. \$23.00.)

This atlas of developmental human anatomy renders visible what has hitherto, for the most part, been available only in the form of tables. In so doing Professor Blechschmidt has provided the basis for answering the old question as to whether there is a natural interdependence of organs. He demonstrates that there is, and this soon becomes apparent in the concentrated treatment of the developmental stages of the first 2 months, though the book covers the whole period of intrauterine development, and this it does originally and admirably.

The illustrations are all beautifully clear, and the descriptive matter is equally so. The text is given in both German and English, a great boon to those who want to improve their German. This is altogether a most welcome contribution to the understanding of human development. I say human development, without limiting the value of the book to morphology, because if we are to understand human development we shall have to pay increasing attention to prenatal development. It is now well established that the prenatal organism is susceptible to every kind of environmental influence, and in order to understand the means by which such influences affect the morphological, physiological, and behavioral development of those influences, a good knowledge of the stages of prenatal development is indispensable. Hence, the importance of such a book as *The Stages of Human Development Before Birth*.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

DIE WISSENSCHAFT VOM VERBRECHEN. By Armand Mergen. (Hamburg: Kriminalistik, 1961, pp. 296.)

Dr. Mergen, who is Professor of Criminology at the University of Mainz and president of the German Criminological Association, has written this book, not as an elementary textbook of criminology, but properly as an *introduction* to this science and as a clarification of the basic concepts, principles and methods of criminology.

The first part of the book contains an interesting historical survey, a discussion of the main criminological approaches (biological, psychological, sociological) and discussions on "criminalistics," penology and methods of prophylaxis. The following chapters are devoted to

discussions of the various concepts of crime and of the criminal, illustrated with a number of cases from Dr. Mergen's own criminological practice (murder, theft, sexual offenses, etc.).

One of Mergen's main contentions is that criminology is a science in its own right, not just a mixture of chapters of sociology, psychiatry, penal law, penology, etc., more or less loosely patched together. Mergen emphasizes the autonomy and unity of criminology and describes its structure and subdivisions.

In the discussion of the basic concepts of criminology, Mergen tends to follow the principles of the school of "Social Defense," a school which looks upon the concepts of guilt, responsibility and punishment as "metaphysical"—a view with which many readers, especially lawyers and judges, are not likely to agree. Be it as it may, Mergen deserves credit for stating the problems clearly and without minimizing the difficulties. He displayed the same impartiality when he recently published his inquiry *Kriminologie Heute* ("Criminology Today") in which he gives side by side the opinions of a number of specialists belonging to divergent schools of thought.

H. ELLENBERGER, M.D.,
Montreal, P. Q.

STATISTICS IN PSYCHOLOGICAL RESEARCH. By William S. Ray. (New York: Macmillan, 1962, pp. 303. \$6.00.)

Although the author is a professor of psychology there is very little psychology in this book. It is really a text-book in statistical methods and satisfactorily performs its function. It does not clash with Aristotle's observation that what one is going to do after learning to do it is best learned by doing it; it provides exercises to that end. Nor will it tend to produce what Sir Ronald Fisher warned against, "boys with a lot of tables under their arms and fog in the place where their brains should be." The book can be recommended for students in statistical courses.

NEIL E. MCKINNON, M.D.,
University of Toronto, Canada.

MENTAL HEALTH IN THE UNITED STATES. By Nina Ridenour, Ph.D. (Cambridge, Mass.: Harvard University Press, 1961, pp. 146. \$3.50.)

It is difficult to think of any one who could have been better qualified than Dr. Ridenour to write such a book as this. She has been intimately acquainted with the history of the so-called Mental Hygiene Movement in the

United States and an active and knowledgeable participant in its later phases. It is an intriguing story that goes back to the publication, warmly supported by William James and William H. Welch, of Clifford Beers' autobiography *A Mind that Found Itself* in 1908, and the founding by Mr. Beers the following year of the National Committee for Mental Hygiene.

Dr. Ridenour gives enough references to the ways, at the beginning of the twentieth century, in which mental patients were regarded and handled to make clear the enormous labors Mr. Beers and the little group he organized laid out for themselves. The time was propitious. There were stirrings in professional circles toward better things, especially following Weir Mitchell's schoolmasterly lecture to the superintendents of American institutions for the insane in 1894. Notable was the record of Dr. George Zeller who in 1902 was conducting the Peoria State Hospital in Illinois on a completely open-door plan "without bars or locks or 'back wards.'" The contributions of Benjamin Rush, Kirkbride, Dorothea Dix to early mental hygiene and of William L. Russell, Thomas W. Salmon and George S. Stevenson to its later phases are duly recorded by Dr. Ridenour. Albert Deutsch's *The Mentally Ill in America* (1937) figures here of the greatest importance.

The author rightly dates the "emergence" of psychiatry to the turn of the 19th to the 20th century, but without taking note of the great stir following the bomb cast by Weir Mitchell into the camp of the American Medico-Psychological Association at its 50th annual meeting in 1894. Early trends in tangible form of the new movement are noted in the erection of "psychopathic" hospitals in connection with university medical schools, leading eventually to the recognition that no "general" hospital deserves its title if it does not provide full psychiatric service.

The leading influence of Adolf Meyer and his wholesome teaching of psychobiology during the early decades of the century are clearly recorded, followed by the epoch of the "new" therapies and burgeoning research.

Compactly but clearly, various vital developments initiated by the National Committee or in which it had an essential part are described. When the author comes to the subject of child psychiatry, she sounds a rueful note. At the time of signing the preface to her book she states that "there are not a hundred 'qualified' child psychiatrists in the United States." It is to be remembered that while the diagnosis mental deficiency—earlier often referred to in harsher terms—is ancient, the range

of other childhood mental disorders is of much more recent acceptance. Even the classification of grades of deficiency set forth by Goddard dates only from 1910.

Dr. Ridenour describes the fine work of Dr. Thomas W. Salmon, first director of the National Committee for Mental Hygiene, who volunteered for military service in World War I, when the United States entered the war. Dr. Salmon was sent to France as Director of Psychiatry of the American Expeditionary Force. This was the beginning of Military Psychiatry as we know it today. When Dr. Salmon became president of the American Psychiatric Association in 1923—the first in the Association's long history who was not a superintendent of a mental hospital—he initiated a movement, perhaps unconsciously, which led to the emergence of psychiatry from the closed walls of the mental hospitals into the general hospitals and the community.

Clifford Beers was one of those rare dreamers whose dream came true. His friends of 1909 were greatly impressed by his vivid and invaluable autobiography but reserved judgment of his long foresight as to the future of his plans for mental hygiene as a world movement. The year 1930 brought the answer. In that year Clifford Beers was the hero of The First International Congress on Mental Hygiene, assembled in Washington, attended by more than 3000 representatives of some 50 countries. The Proceedings of that meeting ran to nearly 1650 pages. In 1948 the Third International Congress was held in London, after which the work of the International Committee was taken over by the World Federation of Mental Health.

An especially notable period in the life of the original National Committee in New York embraced the depression years of the 1930s, when Dr. Clarence Hincks, director of the Canadian National Committee, was invited to assume the direction of the New York office. From 1930 to 1939, Dr. Hincks commuted between Toronto and New York, managing both headquarters. A major activity during 1930-1935 was a fruitful survey of psychiatric teaching in Class A medical schools in the United States and Canada. This survey was carried out by the New York Committee, supported by the Commonwealth Fund. It may be noted that Dr. Hincks, together with Dr. C. K. Clarke, the first director, founded the Canadian National Committee, and succeeded Dr. Clarke as director on the death of the latter in 1924.

This compact book traces the main transactions in the ever-widening domain of mental hygiene, now more suitably called mental

health. Under the general heading "Public Relations" the author deals with the extraordinary, continuing, even exaggerated publicity by all the media of communication, that has been given to this branch of medicine. One of the publicity peaks was the dubiously appropriate film "The Snake Pit." She seeks to note both pros and cons of the publicity obsession without pontificating.

Obviously there are areas in this vast field that require emphasis and amplification, others no doubt retrenchment, many further consideration. It is a fascinating story that Dr. Ridenour has written and we are grateful for her book.

C. B. F.

SENSORY DEPRIVATION. Ed. by *Philip Solomon, et al.* (Cambridge, Mass.: Harvard University Press, 1961.)

This volume reports the first major conference on sensory deprivation held in 1958 at Harvard Medical School. The participants were scientists from a wide variety of disciplines, including neurophysiology, psychiatry, psychology and engineering. Of the fifteen chapters, nine are reports of experimental work, two describe clinical applications, and the remainder discuss theoretical implications for sensory regulation, cognition, and the organization of the central nervous system in man.

The results of sensory deprivation, particularly with regard to aberrations of behavior, have been rather inconsistent. Some workers have seen remarkable changes in perception and cognition after a few hours of exposure to isolation; others have observed very few instances of gross distortion even after several days of isolation. Concern with these ambiguities has led several investigators to search for variables other than isolation which might be relevant to behavioral outcomes. Several such variables, important for all studies of human subjects, have been identified. Individual differences in personality of subjects and experimenters, differing instructions, explicit and implied, and the nature and amount of spatial-temporal structure in the environment are significant parameters. Thus results in this area of investigation are seen to be the product of the complex interaction of a number of factors of which sensory deprivation per se is but one.

The final chapter gives clear directions for further research. The differential consequences of two general techniques, absence of stimulation on the one hand, and unpatterned stimulation on the other, must be specified. Data

gathering must move from qualitative observation to quantitative measurement. More sophisticated assessment of the physiological and neurochemical correlates of behavior change is an urgent requirement. Longitudinal studies of adaptation to these and related environments are recommended.

The reports in this well organized and highly readable volume have implications for clinical medicine, public health, industry, and military operations, and the research gives promise of contributing to a revised conception of the organization of the central nervous system and behavior.

HAROLD L. WILLIAMS, MSC., Major,
Washington, D. C.

THE ETIOLOGY OF IDIOPATHIC EPILEPSY. By Harold Geist, Ph.D. (New York: Exposition Press, 1962, pp. 268. \$5.00.)

The first part of this book has a short section on the medical aspects of epilepsy, which is uncritical and in part in error. There is then a short review of some of the literature on psychological testing and on psychotherapy in epileptics followed by a section on the general principles of psychoanalysis. The remaining two thirds of the book discusses the technique of administering and the results in the author's series of epileptics of several psychological tests, e.g., MMPI, TAT, Rorschach, The Blacky Test, Draw-a-Person Test, Wechsler-Bellevue and Bender Gestalt. The descriptions of the various tests are often too involved for the individual who has not used the specific tests and yet inadequate for teaching others how to administer them. The results are presented with a psychoanalytic interpretation and almost always without giving the reader the slightest idea of whether 1 or 100 cases were examined.

The clinical material is divided into three groups: "A. knows" ("those cases where there is known to be a history of head trauma, laceration or cerebral disease and an EEG characteristic of *petit mal* or *grand mal*, with *petit mal* or *grand mal* convulsive seizures"—italics are the author's), "B. unknown," and "C. probable." There were 40 "unknown" cases, probably 5 "known" (although the author never specifically says so), and an unstated number of "probable" cases. Several of the clinical histories that are given make one sceptical of some of the medical diagnoses. However, the author feels competent on the basis of the various projective tests to offer for each of the three groups "... strands of psychoanalytic data which can be woven to make interesting comparisons with Freud's theories." It would

be unfair for the reviewer to attempt to summarize the characteristics of the various groups because of the many factors that Dr. Geist enumerates.

The author concludes that "... anticonvulsant drugs are, at best, controlling agents and do not completely remove the root of the disease. The answer appears to be in intensive psychoanalytic therapy." The author has neither demonstrated a very keen understanding of the organic basis of epilepsy, including medicinal therapy (which, of course, does not "remove the root of the disease") nor has he demonstrated to this reviewer, at least, that "the answer" lies in psychoanalysis. The title of the book, probably, is a misnomer; rather than *The Etiology of Idiopathic Epilepsy* it actually presents some psychoanalytic speculations on the results of psychological testing of an unstated number and probably mixed group of epileptics.

WALTER J. FRIEDLANDER, M.D.,
Albany, N. Y.

PSYCHOLOGY: AN INTRODUCTION TO THE STUDY OF HUMAN BEHAVIOR. By Henry Clay Lindgren, and Donn Byrne. (New York: John Wiley, 1961, pp. 429. \$6.50.)

This book is intended for use in undergraduate introductory psychology courses and deserves to be adopted by many schools. It is an informative and highly readable textbook, but it would be unfortunate if college sophomores were to be its only readers. It could, as well, provide an interesting overview of contemporary psychology for psychiatrists, psychologists, or others concerned with behavior.

The authors deal with all of the usual topics—learning, motivation, perception, intelligence—but save their best efforts for several chapters that rarely appear in introductory texts. These chapters on communication, group processes, business and industry, and world affairs are unusually well done, in that they present balanced surveys of the areas that are sensitively supplemented with cartoons and photographs.

It is the authors' aim throughout to develop a "scientific understanding of human nature." In pursuing this, they have developed each topic with abundant evidence from research studies. No consistent theoretical point of view is presented, but they are consistent in holding to research evidence. For example, the question of whether perceptual functioning is innate or learned is answered with brief summaries of studies by Hilgard, von Frisch, Tinbergen, and Sauer which effectively lead the reader to a clearer understanding of the nature-

nurture problem. The result is a book which presents a skeptical attitude toward theorizing and advice-giving, but which manages to convey a sense of quiet excitement about psychological research.

DALE L. JOHNSON, Ph.D.,
Houston, Texas

THE PEOPLE OF GREAT RUSSIA. A Psychological Study. By *Geoffrey Gorer*, and *John Rickman*. (New York: W. W. Norton, 1962, pp. 236. \$1.65.)

This book is a soft-cover reprint of a work originally published in 1949, with the addition of a new introduction by the surviving author (Gorer). The reissue is apparently based upon the interest which the work originally attracted. It developed out of the Columbia University Research Project on Contemporary Culture organized in 1947 under the late anthropologist Dr. Ruth Benedict.

The book's material consists of two parts. The first consists of ten sketches of Russian peasant life written by Dr. Rickman, the English psychoanalyst, who served as a physician in a Russian peasant community in 1916-18. These sketches are written with literary skill and psychological sensitivity to the people whom he served, and were originally published in various journals. The second and larger section presents a discussion of Russian psychology and, by implication, an analysis of Russian political history by Mr. Gorer. This section is based upon "three or four hundred interviews" with refugees, immigrants and visitors to Russia carried on at Columbia University by Russian-speaking interviewers. The author disclaims a personal knowledge of Russian, and his role was that of interpreting the interviews. Using Dr. Rickman's sketches as a base and the interviews and literary works as supportive data, Gorer devised a theory that "the majority of great Russians have a diffuse feeling of guilt which is largely or entirely unconscious and a diffuse feeling of fear, derived from the projection of their infantile hostility." This hostility derives, in turn, from the practice of infant swaddling which he implies was universally employed on all infants until the age of 9 or 12 months (both figures are given). The infantile restriction of movement results in the adult feelings of rage and hate, unfocused guilt, a feeling of separateness and a lack of "the internalized ethical control which

guides the conduct of most Occidentals." This explains both individual Russian psychology and the acceptance of both the Tsarist and Soviet systems by the Russian people.

These sweeping generalizations are presented with an apparently disarming modesty and with repeated statements that these conclusions are presented only as an hypothesis. In fact, however, the authors repeatedly interpret important historical events on the basis of their psychological theory.

This presentation raised many questions in the reviewer's mind. While rich in imaginative quality, the material presents few facts. It would make a very great difference, for instance, if swaddling occurred during the first 3, 9 or 12 months of infant life. On this basic fact, the authors are unclear. Swaddling is practiced among peoples as different as the French, the American Indian and the Italian, as the authors state. It is difficult to understand why similar practices should produce such dissimilar national characteristics and the explanations are unconvincing.

Many quotations from Russian literature are presented to describe the Russian character, but these have been chosen to support a theory rather than to investigate an hypothesis, and it would not be hard to find other Russian quotations which could lead to quite different conclusions.

Few students of infant development would deny the importance of early experience upon later psychology or that severe restriction of bodily activity could indeed affect psychological or physical growth. To justify these conclusions, it would, however, be necessary to bring together evidence that 1) such restrictions were universally applied and at an inappropriate age; 2) that the psychological effects upon the individual actually took place and that 3) the psychology of the individual is reproduced in the behavior of large political groups and can account for historical events. In the opinion of this reviewer, the authors have provided no such evidence.

A final quotation will give the reader a flavor of the atmosphere of this book:

"In the case of the Russians, I think the century-old complaint that other countries are keeping them from a 'warm-water port' probably has important psychological implications, but I have not, so far, been able to discover what these are." Perhaps readers of this review could assist with some suggestions.

HELEN WORTIS,
New York Medical College.

Proposed Amendment of the Constitution and By-Laws of the American Psychiatric Association

Approved by Council for consideration of the Membership under provisions of the Constitution and By-Laws

THE CONSTITUTION

Article I. Name

This corporation, founded in 1844 as the Association of Medical Superintendents of American Institution for the Insane, known from 1892 to 1921 as the American Medico-Psychological Association, and since 1921 as the American Psychiatric Association, is hereby continued under the last designation.

Article II. Objects

The objects of this Association are: (a) to further the study of the nature, treatment, and prevention of mental disorders; (b) to promote the care of the mentally ill; (c) to further the interests, the maintenance, and the advancement of standards of all hospitals for mental disorders, of outpatient services, and of all other agencies concerned with the medical, social, and legal aspects of these disorders; (d) to advance psychiatric education and research; and (e) to make available psychiatric knowledge to other branches of medicine, to other sciences, and to the public welfare.

Article III. Members

1. There shall be these classes of members: Fellows, Life Fellows, General Members, Life Members, Associate Members, Distinguished Fellows, Honorary Fellows, Corresponding Fellows, Corresponding Members, and Inactive Members. District Branches may establish parallel categories of membership not inconsistent with this article.
2. At the time of initial application, all except Honorary, Distinguished, and Corresponding categories shall be residents of countries of the western hemisphere, north of South America; or residents of the Caribbean Islands; or residents of dependencies of any of these countries.
3. An applicant for Associate or General Membership, if never before affiliated with this Association, will apply through the District Branch (if such District Branch

has jurisdiction and has been approved for membership processing) in the manner prescribed by the By-Laws.

4. If applicants are ineligible under Section 3, the application will be sent to the Secretary of the American Psychiatric Association, who will relay it to the Membership Committee for processing as a "member-at-large" in the appropriate grade, in accordance with the By-Laws.
5. The Committee on Membership will consist of six members who shall be either Fellows or Life Fellows. Each year the President will indicate which member of this Committee will be Chairman.
6. Associate Members will be physicians who have had one year or more of full-time training or experience in psychiatry.
7. To become a General Member, the physician shall either: (a) have been an Associate Member for at least one year, and have had at least three years of training or experience in psychiatry; or (b) if he has never before been of the membership of this Association, he shall have had three years experience in the specialty, and shall be recommended by the appropriate District Branch for direct election to General Membership. No physician will become a General Member (whether by direct admission to the Association or by advancement from Associate status) unless he: (a) holds a valid, nonprovisional license to practice medicine in the jurisdiction where he is working; or (b) holds an academic or research appointment not requiring licensure; or (c) is a full-time employee or officer of State, County, or National Government.
8. Fellows shall be chosen from those who have been General Members for at least two years, who have specialized in psychiatry for at least seven years, and who have made significant contributions to the field of psychiatry. The appropriate District Branch will be notified of applications for advancement from General Members

to Fellowship status, and consideration shall be given to the recommendations of the District Branch, if submitted.

9. Life Members shall be members who have had 30 years affiliation with the American Psychiatric Association, and who are not eligible for Life Fellowship. A Life Member has all the rights of a General Member.
10. A Life Fellow is one who is a Fellow after 30 years of membership in this Association. A Life Fellow has all the rights of a Fellow.
11. A Distinguished Fellow is a physician, not a member of this Association, or other scientist who has distinguished himself by contributions to psychiatry or related sciences, and who is so designated through the procedure described in the By-Laws. Physicians who had been designated Honorary Fellows will, at the time of the adoption of this Constitution, become Distinguished Fellows. A Distinguished Fellow will not be eligible to vote or hold office but will be invited to scientific assemblies of the Association and receive such publications as Council may determine.
12. An Honorary Fellow is a person other than a physician who has rendered signal service in the promotion of mental health and psychiatry, and who is designated "Honorary Fellow" through the procedure described in the By-Laws. Other than physicians, those previously classed as Honorary Fellows of the American Psychiatric Association will continue in that category. Honorary Fellows are ineligible to vote or hold office, but will be invited to scientific assemblies and will receive such publications as the Council may determine.
13. Any General Member or Fellow who, for ten years or more, has been in good standing, and who establishes inability to continue payment of dues as a consequence of hardship, illness, or retirement, may apply for inactive status. Such status will be granted in appropriate cases by the Council on recommendation of the Membership Committee. An Inactive Member will be entitled to register as a member at Annual Meetings, but will not pay dues, nor will he be eligible to vote or hold office. He will be entitled to the JOURNAL and such other publications as the Council may determine.
14. A person professionally qualified to be a Fellow and who lives outside the jurisdictional area of this Association, as described in Section 2 of this Article, may

be elected a Corresponding Fellow. A Fellow of this Association who moves permanently outside its jurisdiction may become a Corresponding Fellow or remain in previous status, at his option.

15. A Corresponding Member is a former Life Member, General Member, or Associate Member who has moved permanently out of the jurisdictional area of this Association, as described in Section 2 of this Article, and who has applied for the status of Corresponding Member. Such a member, if he prefers, may continue in his membership status.

Article IV. Officers

1. The officers of the Association are a President, a President-Elect, two Vice-Presidents, a Secretary, and a Treasurer. These Officers and an appropriate number of Councillors will be elected annually by mail ballot in the manner prescribed by the By-Laws.
2. The Council shall include the above officers, the Speaker of the Assembly, and twelve Fellows, of whom the retiring President shall be one.
3. Past-Presidents after three years of full Council service will thereafter be members of Council with full floor privileges but without the right to vote.
4. The President-Elect will be installed as President during the Annual Meeting next following the Annual Meeting at which his selection as President-Elect was announced. If the position of the President-Elect becomes vacant during the term, the Council will select a Fellow to serve as President-Elect and he will be installed as President at the next Annual Meeting.
5. The President-Elect, the two Vice-Presidents, the Secretary, and the Treasurer will assume their responsibilities at the time of the installation of the President. Incoming Councillors will assume their responsibilities when their election is announced.
6. The President, the President-Elect, each Vice-President, the Secretary, and the Treasurer shall each hold office for one year; Councillors will serve for three years. The President, the Vice-Presidents, and the four retiring Councillors are ineligible for re-election to their respective offices before three years have elapsed from the date of their retirement from such office.
7. (a) If the position of President becomes vacant, the Council will select a Vice-

President to become President for the remainder of the term.

(b) If any other position becomes vacant, the Council will elect a Fellow of the Association to fill that office for the unexpired portion of the term.

Article V. Privileges

1. The right to vote by mail, or in person, is limited to Fellows, Life Fellows, General Members, and Life Members.
2. Anyone with the right to vote also has a right to nominate candidates and to propose amendments to the Constitution or By-Laws.
3. Only Fellows and Life Fellows may hold elected office or serve as Chairman of Committees, Boards, and Commissions.
4. Every Fellow, Life Fellow, General Member, Life Member, Associate Member, or Inactive Member shall be entitled to the JOURNAL and such other publications as the Council may determine. Every such person shall also be entitled to register and attend the Annual Meetings as a member.
5. Every Fellow, General Member, and Associate Member shall be liable for the payment of dues and assessments.
6. Life Fellows, Life Members, Distinguished Fellows, Honorary Fellows, Corresponding Fellows, Corresponding Members, and Inactive Members will be exempt from payment of dues. Any persons in these classifications who attend the Annual Meeting will be entitled to register there on the same terms as General Members.
7. Any one of the membership of this Association (Article III, Section 1) may be appointed to a Committee.

Article VI. The Council

1. The Council will consist of the persons named in Section 2 of Article IV.
2. A majority of the voting members of the Council will constitute a quorum thereof.
3. Annually, the Council will elect, from its own voting membership, a Moderator of the Council.
4. The Council will meet during the Annual Meeting of the Association, and at such other times as the President or the Moderator may determine. By petition, one third of its members may call a special meeting of the Council.
5. Each year, during the Annual Meeting, the Council will organize an Executive Committee. This Committee will consist of the President, the two Vice-Presidents, the

Secretary, the Treasurer, the President-Elect, the Speaker of the Assembly, and two Councillors especially selected.

6. In the intervals between Council meetings, its Executive Committee has the powers of Council. All actions of the Executive Committee will be submitted to the Council at its next meeting for information, ratification, or modification.
7. The Council exercises all powers of the Association, not otherwise assigned, save when the membership is assembled in general meeting. Powers of the Council include:
 - (a) Fixing the date and place of each Annual Meeting of the Association.
 - (b) Determining the dues and assessments for the various classes of membership.
 - (c) Adopting a budget. This is solely the responsibility of the Council, and the budget, once adopted, shall be reported to the membership, for their information, at a business session of the Annual Meeting.
 - (d) Controlling the funds of the Association and designating its depositories.
 - (e) Making expenditures from the funds of the Association in implementation of its goals and purposes.
 - (f) Administering special funds, grants, and awards.
 - (g) Creating committees.
 - (h) Reviewing applications for District Branch charters after appropriate action by the Assembly, and making or approving recommendations for redistricting of branches when this becomes advisable.
 - (i) Processing applications for transfers within membership grades.
 - (j) Hearing and disposing of appeals from applicants rejected for membership.
 - (k) Directing the President to admonish or reprimand a member, subject to, and in accordance with, the appropriate provisions of the By-Laws.
 - (l) Expelling a member, or suspending a member, for a period of not more than one year, subject to, and in accordance with, the appropriate provisions of the By-Laws.
 - (m) Considering proposed amendments to the Constitution and By-Laws.
 - (n) Publishing the AMERICAN JOURNAL OF PSYCHIATRY, and appointing its editor, Editorial Board (or Publication Committee), and its staff.
 - (o) Providing for other publications desirable for carrying out the aims of the Association.
 - (p) Appointing such staff personnel as it

finds necessary to carry out the purposes of the Association, including professional auditors; and the setting of salaries.

(q) Doing all other things necessary to carry out the purposes of the Association and not inconsistent with the By-Laws or with this Constitution.

Article VII. Committees

1. There shall be the following Constitutional Committees: an Ethics Committee, a Nominating Committee, a Committee on Constitution and By-Laws, a Program Committee, an Executive Committee, and a Board of Tellers.
2. There shall be such Standing Committees, Boards, and Commissions as the President, the Council, the Executive Committee, and membership may designate.
3. Ad Hoc Committees, when appointed, shall act through the next Annual Meeting.
4. Unless otherwise specified, committee members will be named by the President. Each year the President then in office will indicate who shall be chairman of each committee. Anyone in any voting class of membership may be appointed to a committee; but only a Fellow or Life Fellow may be named as Chairman of a Committee, Board, or Commission. Persons not members of the Association may be designated advisors or consultants to committees.
5. Unless such power is specifically granted by Council or by the membership of the Association, no Committee will speak in the name of, nor encumber funds of, this Association.

Article VIII. District Branches

1. District Branches will be created in the manner described in the By-Laws.
2. Each District Branch will elect a delegate. The delegates, in the aggregate, constitute the Assembly of District Branches. The Assembly is authorized to consider any matters pertinent to the welfare of the Association or to the implementation of its objects.
3. The Assembly will annually elect a Speaker-Elect and a Recorder. The Speaker-Elect, at the conclusion of his service in that position, will become Speaker of the Assembly and a voting member of the Council.

Article IX. Amendments

1. Proposals to amend this Constitution may originate either (a) by a petition signed by fifty or more Fellows, General Mem-

bers, or a combination thereof, or (b) by resolution of the Council.

2. (a) Proposals to amend the Constitution by petition of fifty or more Fellows and/or General Members shall be received by the Secretary at least 30 days before the Annual Meeting. Such proposals shall be submitted to the Council and placed on the agenda for reading at the Annual Meeting.
(b) If at any time prior to the first day of the Annual Meeting, the Council passes a resolution endorsing a proposed amendment, the text thereof shall be read at the next Annual Meeting.
3. After a proposed amendment (no matter how originated) is read at the Annual Meeting, the text thereof shall be published in the JOURNAL (or otherwise made known to the membership) not later than January 1. The proposed amendment will be submitted to the membership for mail ballot, at the time of and in the manner provided in the By-Laws in voting for candidates for office in the Association. All Fellows, Life Fellows, General Members, and Life Members shall be eligible to vote. If more than fifteen percent of the eligible voters return properly marked ballots, and if more than two thirds of such ballots are favorable to the proposed amendments, then the proposal shall be considered adopted and the Constitution amended accordingly.
4. Proposals to amend the By-Laws shall be received and acted upon in the same manner as proposals to amend the Constitution except that the favorable votes of a majority of eligible voters shall be sufficient to enact the amendment to the By-Laws, provided that not less than fifteen percent of the eligible votes shall have been cast in this mail ballot, and also provided that not less than ten percent of those voting are in favor of the proposed amendment.

THE BY-LAWS

Chapter One. Annual Meeting

1. A general meeting of the Association will be held annually at such times and places as the Council may direct. In times of war or other grave national emergency, the Annual Meeting may be waived, but elections will be held by mail ballot and Council or its Executive Committee will carry on the missions of the Association.
2. Prior to each Annual Meeting, the Council will develop an agenda indicating what will be done on each day. The new officers

will be installed on a day, time, and occasion selected by the incoming President.

3. The President (or, in his absence, a Vice-President) will preside at each business session of the Annual Meeting.
4. One hundred and fifty voting members will constitute a quorum.

Chapter Two. Disciplinary Actions

1. (a) Any Associate Member, General Member, or Fellow who, for three consecutive years, fails to pay dues required by Council will be notified by registered mail by the Treasurer of the Association that he will forfeit membership if arrearage is not paid by a specific date. If full payment has not been made by that date, the Treasurer of the Association will notify the Council. Unless, at its next meeting, the Council waives the arrearage or remits the dues, the delinquent member's name will be stricken from the rolls of the Association. Thereafter, he may return to the Association only by being processed as a new Associate Member or General Member, unless the Council orders reinstatement with or without waiving the arrearage.
 (b) Any member of a District Branch (unless he be a Life Member or Life Fellow of this Association) who fails to pay District Branch dues for three consecutive years will be notified by the Treasurer of the Branch that this arrearage will, on a specified date, be reported to the Secretary of the American Psychiatric Association. If, by that date, full payment of District Branch dues has not been made, the Secretary of this Association will be so notified. The Secretary of the American Psychiatric Association will advise the delinquent member of the provisions of this section (Section 1. (b) Chapter Two of the By-Laws) by registered mail and, at the next meeting of the Council of the American Psychiatric Association, this delinquency will be reported to Council. Unless the Council directs otherwise, the delinquent member will be dismissed from both the Association and the District Branch. Thereafter, he may return to the Association only by being readmitted to the District Branch in accordance with its regulations.
 (c) No Life Fellow or Life Member of this Association will forfeit membership in a District Branch for nonpayment of District Branch dues.
2. The Ethics Committee shall hear all complaints filed against a member. It shall

consist of six Fellows, at least one of whom shall be a Past-President of the Association. The terms of the members shall be adjusted so that each year two seats become vacant, and in each succeeding year the incoming President shall appoint members to fill the vacancies of the Committee. The President shall designate, from the membership of the Committee, a Chairman whose term shall be for one year. Vacancies developing during the term of any member of the Committee shall be filled by the President, who shall name an *ad interim* member or Chairman for the unexpired term of the previous member.

3. Any complaint concerning behavior, *specified in Section 4 of this Article*, shall be in writing and signed by the party making the complaint. Any person, including any member of this Association, may make such a complaint. It shall be filed with the Secretary who shall forward it to Council for action.
4. When the Council receives, through the Secretary, a complaint that a member has been engaged in unethical or unprofessional conduct, or has knowingly refused to comply with resolutions or requests of the Council, or has brought discredit or dishonor on the Association or on the practice of psychiatry, or has been convicted of a crime involving moral turpitude, the Council may (a) dismiss the complaint if less than two thirds of the voting members of the Council agree, or (b) refer the complaint to the Ethics Committee for consideration and recommendation on approval of two thirds of the Council.
5. If circumstances warrant, the Council, by two-thirds vote, may suspend any member of the Association, without prejudice, (for not more than ninety days) from any or all privileges of membership. Such action may be taken by the Council when it is considered to be in the best interests of the Association pending completion of the adjudicative procedures described below.
6. Upon receipt of a complaint from the Council, the Ethics Committee shall designate a Fellow of the Association to investigate the basis of the complaint and report his findings to the Ethics Committee. Any member under investigation is entitled to thirty days' notice in writing advising him of the nature of the charges against him and of the date set for hearing thereon.

A member so charged may appear before the Ethics Committee and be represented by counsel. If the member is unable to travel to the place set for the hearing, he may, upon written request, appear before one or more examiners designated by the Ethics Committee, who need not be members of the Committee. All examiners shall be Fellows of the Association. Testimony of the member shall be recorded and all copies must be signed by the member and examiner, certifying the accuracy of the transcript before submission to the Ethics Committee.

7. Upon receiving the report of the investigation, the Ethics Committee shall hold a formal meeting at which, in addition to personal appearance, the member charged may be represented by counsel who may submit a brief on his behalf for consideration by the Ethics Committee and Council. The Committee may (a) determine the complaint to be without merit and recommend to the Council that it be rejected; or (b) advise the Council that one or more of the charges in the complaint have been sustained and recommend that the member be admonished, reprimanded, suspended from membership for a specific period of time, or expelled from the Association.
8. The Council shall have authority to act upon the recommendations of the Ethics Committee. A majority vote of the Council shall be required to admonish, reprimand or suspend, but a two-thirds vote of the Council shall be required to expel a member from the Association. The Council may, by a two-thirds vote, impose a more severe penalty than that recommended by the Ethics Committee. The Secretary shall promptly notify in writing the member charged of the action taken. The Council's action, in any case, shall be by resolution and recorded in the minutes.
9. The records of the Ethics Committee and the minutes of the final action of the Council shall be filed with the permanent records of the Association and may be inspected by any member having a legitimate interest therein. Unless the member charged requests it, in writing, the name of such member shall not be included in the Council's open report to the membership read at the Annual Meeting of the Association, nor in the minutes published in the JOURNAL.
10. A member may appeal a disciplinary measure taken against him by the Council

to the membership by filing notice of such appeal with the Secretary within ten days of receipt of notification of the action of the Council. On receipt of such notice, imposition of the penalty shall be held in abeyance. However, if expulsion has been directed by Council, the member shall be suspended from all privileges of membership pending the outcome of his appeal. The matter shall be placed on the agenda of the next Annual Meeting where it shall be heard at a session attended only by voting members of the Association and the necessary secretarial staff selected by the President. The member shall be given an opportunity to be heard and to be represented by a person selected by him. The matter shall be discussed, the member excused, and a closed written ballot taken. If two thirds of those present vote to reverse the action taken by the Council, the complaint shall be rejected.

Chapter Three. District Branches

1. When a group of not less than twenty members (not more than 20 percent of whom may be Associate Members), residing in a contiguous geographic district, desires to create a District Branch, they will submit a petition, personally signed by the proposed charter members, to the Recorder of the Assembly of District Branches, together with a proposed Constitution and By-Laws of the Branch, requesting a specific geographical jurisdiction. The Assembly will consider the application and make report and recommendation to the Council. If the Council approves, the proposal will be submitted to the general membership of the American Psychiatric Association for disposition. If the proposal is approved by a majority of members voting, the District Branch will be created.
2. Requirements for membership in a District Branch will be the same as for membership in this Association. A District Branch may elect, as Affiliates, physicians practicing or residing in its area who are not eligible for membership in the Branch. Affiliates are not members and will be ineligible to vote or hold office in the Branch or the Association, and will not be tallied in computing the voting strength of the Branch in the Assembly.
3. Subsequent to the adoption of these By-Laws, every Associate Member and General Member of the American Psychiatric Association will belong to the District

Branch, if any, having jurisdiction over the area where he resides and/or practices. If a member transfers permanently to another area, the provisions of Chapter 6, Section 11, will apply. Voting members of the Association, not affiliated with District Branches at the time of adoption of these By-Laws, may, at their option, become members of an appropriate District Branch or remain "members-at-large" and so designated by Council.

4. A District Branch shall be approved for processing American Psychiatric Association membership applications (a) when its boundaries have been defined in its approved Constitution, and (b) after certification by its officers of its ability and willingness to serve in that capacity.
5. A District Branch's approval for processing membership applications may be rescinded (a) by request of a majority of members of that Branch attending a regular or special meeting thereof, or (b) by resolution of the Council, or (c) a recommendation of either the Membership Committee or the Assembly and concurrence of the Council.
6. If the creation of a new District Branch would require alteration in the jurisdictional area of an existing Branch, this fact should be communicated to the Recorder of the Assembly by the Secretary of the existing District Branch. If there is objection to the alteration by the membership of the existing District Branch, this shall be noted in the communication to the Assembly and representatives of both groups will be invited to discuss the matter when it is considered by the Assembly and the Council. The Assembly will make recommendations to the Council and the Council will make recommendations to the Membership of the American Psychiatric Association at the Annual Meeting. Disposition will be made by a majority vote of those present and voting.
7. Each District Branch will elect its own officers, arrange its own programs, and provide for its own expenses. District Branch officers will assume their duties at the close of business of the Annual Meeting of the American Psychiatric Association next following their election. They may be formally installed within thirty days prior to or subsequent to that date.
8. Each District Branch will select a delegate from its membership. These delegates, in the aggregate, will constitute the Assembly of District Branches. The Assembly will

meet at the place of the Annual Meeting of the American Psychiatric Association and during the period of that meeting. The Assembly may meet at such other times and places as the delegates of their Policy Committee may determine. The Assembly shall (a) consider matters referred to it by the Council and advise the Council thereon, and (b) present to the Council suggestions and recommendations on any other matters pertaining to the objectives of the Association.

9. The presiding officer of the Assembly shall be known as its Speaker. At each Annual Meeting the Assembly will elect a Recorder and a Speaker-Elect. The Speaker-Elect will become Speaker at the Annual Meeting next following election. If the position of Speaker becomes vacant, the Speaker-Elect will become Speaker for the unexpired portion of the term and for his own full term thereafter. If the position of Recorder becomes vacant, the Policy Committee will designate a member of the Assembly to fill the unexpired portion of the term as Recorder.
10. The Assembly is authorized to adopt and, in accordance with its rules, to amend a procedural code. Nothing therein will be inconsistent with the Constitution, By-Laws, or resolutions of the American Psychiatric Association or its Council.
11. The Assembly is authorized to create a Policy Committee to function on behalf of the Assembly in the interim between Assembly meetings.

Chapter Four. Voting by Mail

1. General Members, Life Members, Fellows, and Life Fellows (and only these) shall be eligible to vote by mail on candidates, proposed amendments, or referenda.
2. Any Fellow or Life Fellow, nominated for office by a petition signed by fifty or more General Members or Fellows, shall be considered an eligible candidate and his name shall be included on the official ballot for the next general election, provided that such petition has been filed at the Central Office of the Association prior to January 21st.
3. A Nominating Committee of five Fellows will be appointed by the President within sixty days after his installation into that office.
4. The Nominating Committee will announce the selection of a panel of candidates, at least one for each vacancy, not later than October 31st.

5. The Secretary will prepare an official ballot which will include the names of all candidates selected by the Nominating Committee or nominated by petition. The official ballot will be mailed to all eligible voters between February 1st and February 15th. The date on which ballots will be tallied shall be announced in a memorandum accompanying the ballot. This date will not be earlier than four weeks, nor later than two weeks, before the opening of the Annual Meeting. All properly sent ballots received prior to the time of tally shall be counted and the person who receives the greatest number of votes for each single office will be certified as elected thereto. The candidates who receive the greatest number of votes for office as Councillors will be certified as elected to the Council. Results of this election will be announced at the Annual Meeting.
6. Between February 1st and February 15th, the Secretary shall mail an official ballot to each voting member.
 - (a) To each voter shall be sent a package containing (1) the official ballot, (2) a letter or memorandum of instructions, (3) an inner envelope, and (4) an outer envelope.
 - (1) The official ballot shall contain the name of each candidate selected by the Nominating Committee, and of each candidate nominated by petition, together with a brief biographic account of the candidate. Candidates for the same office will be grouped together. By symbol, word, or phrase, it shall be indicated for each candidate whether he was nominated by petition or by the Nominating Committee. The county, state, district, or province of each candidate shall also be indicated. The ballots shall be identical, shall not be numbered, nor shall there be any provision for the signature of the voter. The final return date shall be indicated clearly near the top or near the bottom of the ballot.
 - (2) The memorandum of instructions shall furnish the key to any symbols or abbreviations in the ballot; shall clearly state the final return date of the ballot; and shall give instructions for folding, marking, and mailing.
 - (3) The inner envelope shall have printed on its face a serial number and a certificate which the voter will sign, indicating that he is the person to whom

the ballot was issued and that this is the only vote he is casting at this election.

(4) The outer envelope shall be large enough to accommodate the inner envelope. On the face of the outer envelope shall be printed or written the words "Board of Tellers" followed by the office where the ballots will be counted so that further addressing by the voter will not be necessary.

(b) Prior to the mailing of the ballots, the President shall designate a Board of Tellers consisting of members and employees of the American Psychiatric Association, at least one of whom shall be a Fellow of this Association, and at least one of whom shall not be a Member or Fellow of this Association. The President shall likewise designate one or two employees of this Association as custodians of the ballots. Record shall be kept of the serial number of the inner envelope mailed to each voter.

(c) As the outer return envelopes are received by mail, the custodian of the ballots shall open the outer envelope and compare the signature on the inner envelope and its serial number with the name and number in the record. If these are in accord, the custodian will deposit the unopened inner envelope in a safe place. If a discrepancy is found in the name or number, the inner envelope shall be referred to the Board of Tellers for a decision.

(d) On the day fixed for the counting, the custodian shall open each inner envelope and remove each folded ballot in the presence of a Teller, and place it, still folded, in a ballot box. The votes will be counted after all inner envelopes have been opened.

(e) The Chairman of the Tellers, or some person designated by the President, will announce the results of the election at the Annual Meeting.

7. VOTING ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS. After a proposed amendment to the Constitution or By-Laws has been circularized or published in the JOURNAL, pursuant to the Constitution, the Secretary shall prepare an official text of the proposed amendment to the Constitution or By-Laws, preceded by those sections of the Constitution or By-Laws that would thereby be amended. Under this text matter

there shall be printed the phrase "Are you in favor of this proposed Amendment?" and the words "Yes" and "No" on separate lines with space to indicate the voter's choice.

8. **VOTING ON REFERENDA.** Whenever the Council, the Assembly, or members in formal session at the Annual Meeting direct, by resolution, that a matter be referred to the membership by mail ballot, this shall be done in the manner as described in Section 7 above. The Council shall, by an enabling resolution, indicate the day of mailing and the return date on which the ballots shall be counted. There shall be a period of at least twenty-one days between these two dates. The wording of the resolution shall indicate whether the resolution is to be binding or advisory.
9. **EFFECTIVE DATES.** Amendments, new By-Laws, and referenda shall be effective on the date of the certification by the Board of Tellers unless a different effective date is indicated within the text of the proposal.
10. **CERTIFICATION.** After the tally of each mail poll, the Tellers shall prepare a written certificate indicating (a) number of ballots counted, (b) number of votes cast affirmatively and negatively for each candidate, (c) number of ballots disqualified and the reasons therefor, and (d) net results of the election. The full text of the certificate will be filed in the Secretary's office for inspection on request by any Member or Fellow. The net results of the poll, giving only the names of successful candidates and the text of successfully passed Amendments, will be announced at the Annual Meeting and published in the JOURNAL.

Chapter Five. Scientific Programs

1. Subject to ratification by Council, the Program Committee will have final authority to determine the acceptability, or conditions of acceptability, of scientific papers offered for the Annual Meeting.
2. The Program Committee will determine the date, time, and room for the presentation of each accepted paper.
3. The Program Committee will select a chairman and a recorder for each scientific session.

Chapter Six. Membership Processing

1. A person not previously affiliated with this Association, and living within the jurisdic-

tion of a Branch, will apply for membership through the appropriate District Branch. If he resides outside the area of a Branch approved for membership processing or is not eligible for membership in the District Branch having jurisdiction, he may submit an application for membership-at-large to the Secretary of the American Psychiatric Association.

2. If an applicant is elected a member of a District Branch, notification of his election will be forwarded to the Secretary at least thirty days prior to the Annual Meeting. Upon receipt of notification of election from the Secretary, the applicant shall become an Associate Member or General Member of the Association, provided that the Branch has been approved for membership processing. The list of members so elected by the District Branches during the preceding year shall be presented to the membership at the next Annual Meeting.
3. If an applicant is rejected for membership in the District Branch of jurisdiction, the applicant may, within ninety days of being notified, appeal the action of the District Branch by sending an application to the Secretary of the American Psychiatric Association with a request for election to membership-at-large. The Secretary will refer the application to the Membership Committee and advise the Council that such appeal has been received. This Committee will investigate the rejection and, at the applicant's request, grant him a personal hearing at a place designated by the Membership Committee. Representatives of the Branch will be invited to such a hearing. The Membership Committee will then submit a confidential report to the Council. The Council may reject the application or may submit the applicant's name to the membership of the Association for election as a member-at-large as provided in Section 4 below.
4. If an applicant lives outside the area of a District Branch approved for membership processing, or is not acceptable for membership in the District Branch having jurisdiction, the application will be reviewed by the Membership Committee and forwarded to Council for action. Council shall then present the applicant to the membership of the Association for election in the appropriate grade at the next Annual Meeting. Members, so elected, will be designated members-at-large.

5. Promotions from Associate to General Member will be made by the Council in appropriate cases, after hearing the opinions of the District Branch having jurisdiction and the recommendation of the Membership Committee. The Council is authorized to establish more detailed criteria for such promotions for the guidance of the Membership Committee and District Branches. The Council's refusal to promote an Associate to General Membership will be without prejudice to the Associate's right to make subsequent application.
6. Promotions from General Member to Fellow will be made by the Council after weighing the recommendations thereon of the Membership Committee and District Branch. The Council's failure to advance a Member to Fellowship will be without prejudice to the Member's right to make subsequent application. The Council is authorized to establish more detailed criteria for Fellowship for the guidance of the Membership Committee.
7. Advancement to Life Membership or Life Fellowship will be upon the Secretary's certification that the Member or Fellow had been a member in good standing in the Association for thirty years, and further certification indicating present grade of membership or fellowship.
8. Any member may nominate a person for Honorary or Distinguished Fellowship. The citation will show the person's services in the fields of psychiatry, mental health, or the social or behavioral sciences. Each citation will be surveyed by the Membership Committee who will report thereon to the Council. The Council will determine whether to confer Honorary or Distinguished Fellowship or whether to defer this recommendation. A deferred recommendation will not be renewed until two years or more have elapsed from the date of the earlier nomination.
9. A General Member or Associate Member who permanently moves out of the jurisdictional area of the Association may, on application to the Secretary of the Association, be granted Corresponding Membership unless the Council directs otherwise. Such member may, however, retain his previous membership category if he so desires and continues to pay dues.
10. Any psychiatrist living outside the jurisdictional area of this Association whose professional activities are of Fellowship caliber may apply for Corresponding Fellowship, or such an application in his behalf may be made by any Fellow or Life Fellow. This will be studied by the Membership Committee which will report thereon to the Council. The Council will take dispositive action on such applications.
11. A member of a District Branch who moves permanently into the jurisdictional area of another District Branch will become a member of the District Branch into whose area he has moved; except that, if the governing body of that District Branch grants a waiver, he may, if he wishes, remain a member of his previous Branch. After adoption of these By-Laws, every Associate Member, General Member, and Fellow of this Association living in a District Branch area will be a member of the District Branch having jurisdiction, except: (a) under conditions stated above; (b) ineligible under Article III, Section 3; and (c) exempt by the Council as a member-at-large, as provided in Chapter 3, Section 3.

Chapter Seven. Affiliated Societies

1. When any psychiatric society of a geographic division or region within this Association's jurisdictional area shall desire to become an affiliated society, it will submit to the Council a copy of its Constitution and By-Laws and a list of its members. If the Council approves, the recommendation shall be submitted to the voting membership at an Annual Meeting. If the majority of those present and voting so determine, the society will thereupon be designated an Affiliate Society of the American Psychiatric Association, subject to the limitations of Section 3, below.
2. Any Society that has been designated an Affiliate of the American Psychiatric Association, prior to the promulgation of these By-Laws, will remain an Affiliate Society, subject to provisions of Section 3, below.
3. In every affiliated Society, all members must be physicians; at least 75 percent of the members must be psychiatrists; and more than 50 percent of the Society must be members in good standing of the American Psychiatric Association.
4. No affiliated Society will speak in the name of, nor encumber funds of, the American Psychiatric Association.

Harvey J. Tompkins, M.D.,
Secretary.

REVIEW OF PSYCHIATRIC PROGRESS 1962

HEREDITY AND EUGENICS

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This year the task of compressing an ever-growing output of genetically pertinent publications into a concise progress review assumed disconcerting proportions. As Glass(34) pointed out, no longer could a single individual be expected to digest more than a fraction of the 100,000 articles extracted by *Biological Abstracts* each year from over 6,000 periodicals of potential genetic interest. The same thing might be said of having to attend the numerous meetings and special symposia bearing on the study of human heredity.

In addition to the regular programs of national societies, the list of specialized conferences included those held by the New York Academy of Sciences (evolution of man; tumor immunity; tissue transplantation; relatives of man, etc.), the anniversary program of the Institute of Cancer Research (Francis Delafield Hospital) in New York, and symposia organized by the Social Science Institute of Washington University in St. Louis (determinants of human sexual behavior), the Tissue Culture Association in Washington, the University of Missouri (genetics today), the Vanderbilt University Medical Center in Nashville (birth defects), the Eastern Psychiatric Research Association in New York (advances in radiobiology and biochemical genetics) and the Manfred Sakel Foundation in New York (biological treatment of mental illness).

Earlier symposia, the proceedings of which became available in book form, were concerned with mental retardation and its genetic components(51), congenital malformations(25), radiobiology(29), chromosomal aberrations(16), normal variation and natural selection in man(6, 38, 67), biological aspects of the psychoses(28, 76), and expanding goals of genetics in psy-

chiatry, the topic of the recent anniversary symposium of the Department of Medical Genetics of the New York State Psychiatric Institute(48).

The many new textbooks, published here and abroad, varied considerably in degree of specialization. Among them were volumes on general genetics(1, 49, 57, 60, 69, 72), the evolution of man(13, 18, 66) and human genetics(9, 11, 12, 32, 74, 83) including a particularly comprehensive one in German(79). Other valuable books dealt with radiation genetics(21, 44), the biochemical basis of psychiatry(42), pharmacogenetics(47), growth and development(80), animal behavior(5, 52) and twins(31, 71). In addition, the *International Review of Cytology*(8) contained excellent chapters on genetic coding, chromosomes, sequential gene action and cellular differentiation, while expertly annotated reviews of basic, clinical and psychiatric genetics, previously published in the *Journal of Chronic Diseases*, appeared in a single volume(56).

Chromosomal anomalies were described in numerous pathological conditions as well as in the phenotypically normal(33, 62). However, except for the aberrations observed in certain cases of abnormal sexual development, Down's syndrome, myeloid leukemia and the chromosome -17 syndrome, the precise nature of the defects seemed to call for further amplification and confirmation. At any rate, the frequency and somatic stability of chromosomal mosaics proved to be an important consideration in accounting for the wide range of variation seen in abnormal sexual development(10, 81) as well as in the symptomatology of mongolism(14, 39, 53). Of importance also were reports on an aberration identified as a self-perpetuating ring-chromosome in a case of gonadal dysgenesis

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(54) and on two sisters with multiple malformations who were found to carry an apparently identical supernumerary autosome(37).

Another small extra chromosome was detected in an 8-year-old boy who on psychological testing showed schizophrenia-like symptoms(78), and a complement of 47 chromosomes was also reported in twin girls who appeared schizoid from the age of 5(4). However, the psychiatric diagnosis in these cases seemed to require clarification, especially since 10 other schizoid children in the latter study were found to have normal karyotypes.

Deletion of part of a Y chromosome in several members of a family with a combination of muscular dystrophy and hypospadias was assumed to be associated with the genital defect rather than with dystrophy(59). On the other hand, an extra small acrocentric chromosome was found in some cells from 5 of 7 cases of dystrophia myotonica(26). Even more startling was the report(30) that a human XX/XY hermaphrodite may have resulted from double fertilization of a single egg by two sperms.

Recognition of chromosomal duplication opened new avenues for linkage studies in man. It was shown that an extra chromosome may result in the cell's accumulation of excessive amounts of the products of the genes situated on that chromosome. Increased activity of leucocyte alkaline phosphatase in Down's syndrome seemed to indicate that a gene controlling production of this enzyme may be located on chromosome 21(77). However, no difference in erythrocyte glucose-6-phosphate dehydrogenase activity (which is controlled by a gene on the X chromosome) was detected in individuals of the XO, XX, XXX or XXXX varieties(36). The discovery of a sex-linked blood group(55) furnished a useful marker for tracing the transmission of genes on the X chromosome.

The search for a biochemical anomaly in schizophrenia continued with inconclusive results and with a surfeit rather than a dearth of observed aberrations(2, 28, 42). On investigating whether the children of psychotics show more neurotic symptoms than a control group, Cowie interpreted her finding of no increase as supporting

the hypothesis that the neuroses and psychoses are etiologically distinct(15). Also studied was the possible effect of communication stress on the development of schizophrenia in the presence of early total deafness, but no evidence of an increased frequency of this psychosis in the deaf as compared with the hearing was obtained(48). No gross chromosomal disarrangement was found in homosexuals(65, 73), although Slater reported that male homosexuals have an older maternal age at birth than controls, at the same time suggesting heterogeneity in the etiology of this condition(73).

Comprehensive reviews of genetic principles were presented in regard to aging(35), intelligence(40), drug-induced parkinsonism(61), phenobarbital idiosyncrasy(24), and congenital abnormalities(70). The deleterious effects of thalidomide in producing developmental defects of a highly specific nature were also explored(58).

Time as a dimension in the interplay of genetic and environmental forces, and the relationship between instinct and learning during growth and maturity were lucidly discussed by Eiduson(22). Perhaps equally worth mentioning was the fact that autoimmunization (the production of antibodies against the body's own proteins) received renewed interest, both in diseases with a strong genetic component such as Hashimoto's disease(17), and in those with a relatively weak predisposition such as multiple sclerosis(7).

Twins continued to be popular subjects of psychiatric research. Recent work included studies on intellectual subnormality(48), criminal behavior(84), schizophrenia(68), psychoneuroses(43), intellectual changes in aging(46), homosexual behavior(50), deafness(48), cancer(45), the correlation between mental and physical growth(3), infant vocalization(63), administration of hallucinogens(82) and a psychological study of identical twins with ovarian dysgenesis(64).

The extensive normal variation demonstrable within human populations(38, 75) was shown to be responsive to the forces of natural selection occurring within civilized communities(18, 67). The important point that biological variation and political

equality should not be regarded as mutually exclusive was eloquently made by Dobzhansky (19), and a stimulating work on the origin of the human races was written by Carleton Coon (13). With the mounting crisis in world population growth receiving more and more attention, it was helpful to have the dilemma succinctly stated by Dorn (20). The sort of medical advice given in premarital counseling (41) and the prognosis after therapeutic sterilization (23) also were expertly surveyed, and equally detailed was a description of the genetic implications of consanguineous marriages (27).

Once again, the 1962 Nobel Prize for medicine was awarded to geneticists, this time to Drs. Watson, Wilkins and Crick for their pioneering work on the molecular structure of DNA. The R. Thornton Wilson awards (Eastern Psychiatric Research Association) were presented to Dr. Blair Rogers for his systematic studies on the genetics of tissue transplantation and to Dr. Eugene Oakberg for his report on the results of experimental radiation genetics in man. The first William Allan Memorial Award of the American Society of Human Genetics was given to Dr. Newton Morton for his outstanding work in developing new techniques in statistical genetics.

Unfortunately, the discipline of genetics lost two of its grandmasters during the year, Sir Ronald Fisher at the age of 72, and Dr. William Castle at the age of 94. Death came also to the renowned anthropologist, Sir Ruggles Gates.

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NEUROPATHOLOGY, BIOCHEMISTRY AND ENDOCRINOLOGY

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Basic studies may offer productive leads for studying demyelinating diseases, such as multiple sclerosis. Luse(1-4), using elec-

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tron microscopy, has shown that myelin is an intricate lamellar structure that is part of the sheath cell. Since all axons have at least a single cell membrane about them, it may be reasoned that all axons are myelinated. The small "C" fibers have multiple axons within a single Schwann cell rather than the single axon within the Schwann cell as a myelinated fiber. A metabolically active Schwann cell may manufacture the large amount of membrane necessary to form myelin by fusion of cytoplasmic vesicles. In the central nervous system nodes of Ranvier occur as in peripheral nerves. It may well be that more than one glial cell contributes to the sheath of a single segment of myelin. As glial processes insert themselves between the unmyelinated axons there is a predominance of oligodendroglial processes containing numerous vesicles. It is necessary to have both a neuron and a sheath cell before myelin will form. The integrity of both is necessary for the maintenance of the myelin sheath. Wallerian degeneration is a prototype of demyelination following an insult to either the neuron or the axon. The second type of demyelination is the result of an insult to the sheath cell, be it a Schwann cell or oligodendrocyte. The first changes are swelling of the cytoplasm and the cellular organelles in the sheath cells. Later the myelin disintegrates but the axon is unaltered.

Bornstein and co-workers(5-7) were involved with the living events of myelin formation as visualized directly by serial observations of cultured newborn kitten and rat cerebellum. During the phase of early myelin formation single neuroglial processes may be seen spiralling around the axon. Other axons appear to be involved with multiple glial cell processes, each seemingly contributing to the multiple layering. The internal structure of myelin may be produced by multiple neuroglial cell processes interdigitating about any particular axon.

Bornstein and Appel(6) exposed cultures of myelinated fibers to high concentrations of serum from animals with acute allergic encephalomyelitis. The first observable alteration appears as a swelling of the neuroglia. The myelin sheaths soon become disfigured by fusiform swellings at irregular intervals. The sheaths become indistinct

and finally fade into a background of neuroglia, neurons and small fat granules. Meanwhile some neuroglia have become enormously swollen. Their pyknotic nuclei frequently lie against the cell membrane with retracted elements of the cytoplasm. The main body of the cell is filled with fluid and particles in Brownian movement. At this time neurons seem little affected. The axis cylinders appear intact. The tissue is far from overwhelmed by the reaction. Removal of the foreign serum and its replacement by normal nutrient medium halts the process. Remyelination may occur after a short recovery period.

These workers also studied the first point of attack of the active agents on the neuroepithelium. Cultures of the rat or mouse cerebellum exposed for a suitable time to the rabbit experimental allergic encephalomyelitis serum were washed, fixed and then overlaid with fluorescein labelled duck anti-rabbit globulin. The preparations were then viewed in a microscope illuminated by ultraviolet light. Before demyelination is too advanced, the antiglobulin preparations attach to the neuroglial cell membranes and the myelin sheaths as demonstrated by the location of the fluorescence. If the demyelination is allowed to proceed, the globulins are no longer situated exclusively on the cell membranes but are found diffusely within the glial cytoplasm. Finally a culture washed free of experimental allergic encephalitis serum and returned to normal in vitro conditions for a number of days may reveal a very light trace of rabbit globulin still outlining the neuroglial cell membranes. It is possible that the first point of attack of the encephalotoxic factors in the experimental allergic encephalitis sera may be the neuroglia cell membrane and the myelin sheath which has been demonstrated to be composed of modified glial cell membrane.

Richter(8) has recorded rhythmicity in both organic and emotional diseases which he discusses as biological clocks. He has gathered over 500 cases from experience or from the literature. A remarkable example is intermittent hydroarthroses which he illustrates from 128 cases. This is a condition with no fever, no leucocytosis, no changes in pulse rate, no mental or emo-

tional symptoms. In most instances swelling of the joints constitutes the sole abnormal symptom. In any one patient the length of the cycles of swelling of a joint tend to be so constant over periods of months and years as to form a characteristic rather than an average length of cycle. The lengths of cycles for all this group fall within a narrow range of 7 to 14 days. Although in most patients with multiple joint involvement, swelling occurs at the same time in all joints, swelling may reach a maximum at different times in respective joints. The cycles then have the same length but they are out of phase.

Richter showed that in emotional illnesses mood variations, sleep and pulse may show rhythmical variations of remarkable constancy over months and years. In one patient depressed and normal phases each lasted about 20 days. One phase may be abnormal and the other normal or they may both be abnormal. These rhythmical changes may appear at any age. They may persist for months or years or be evident only for short periods. The well known biological clocks are the 24-hour clock of all humans and the 28-day menstrual clock of women. Many other timed mechanisms are present as becomes unmistakably clear under certain abnormal conditions. Cyclic phenomena are made more readily visible in lower animals than in man. Richter suggested that there are three types of clocks. One is peripheral as in the blood forming tissues of the bone marrow. Another is located in the brain, particularly in the hypothalamus and reticular formation. The third is homeostatic involving target organs and endocrine glands. It is assumed that the functioning units of every organ of the body have an inherent cycle characteristic of the organ. The units may be put in phase by such things as shock, trauma or allergy.

Several groups of investigators are studying hyponatremia and the antidiuretic hormone in relation to the nervous system. Hayward and Smith(9) stimulated various regions of the brain in trained conscious monkeys by means of stereotaxically implanted electrodes. The results were determined by various techniques including insulin and creatinine clearances and osmality determinations. Excitation of the

amygdaloid complex, the olfactory tubercle, the hippocampus and the diagonal band resulted in the release of antidiuretic hormone. Similar positive results were obtained from areas in the mesencephalic tegmentum. These investigations show that excitation of regions of the brain other than the hypothalamus can release antidiuretic hormone and indicate a more widespread control than has previously been demonstrated. The syndrome of cerebral hyponatremia also suggested to Hofer, *et al.*(10), the existence of pathways for primary central nervous control of antidiuretic hormone. A conditioning procedure was employed to investigate the possible physiologic role of such connections in modifying simple water diuresis. Five subjects on controlled diet, hydration and activity received 750 cc. of water by mouth in the same laboratory room for two weeks. After their conditioning a single 30 cc. swallow taken in this setting produced a substantial diuresis in each subject whereas 150 cc. taken in a different setting, but under otherwise similar conditions merely maintained control flow rates. Analysis of urinary composition showed marked change in free water clearance without alteration of excretory rates for sodium, chloride, potassium or creatinine, thus suggesting a conditioned decrease in circulating antidiuretic hormone. These experiments define certain circumstances under which nervous integration can alter neurohypophyseal secretion and reveal the capacity of this regulatory system to respond in terms of past experience even in preference to current homeostatic demands. Epstein, *et al.*(11), reported the case of a 16-year-old girl in whom chronic hyponatremia was associated over a period of years with excessive and paradoxical urinary losses of sodium. The neurological state was normal as long as the serum sodium was not allowed to fall. When the sodium did fall she developed mental confusion, tremor, weakness and positive Babinski signs and, on at least one occasion, a generalized seizure. Further study showed that hyponatremia and renal salt wasting resulted from inability to excrete a dilute urine after drinking water, probably owing to continued and inappropriate release of antidiuretic hormone. She has been success-

fully treated with the single and simple admonition to take liquids only when thirsty. Faris, *et al.* (12), reported a case of severe electrolytic depletion associated with coma and convulsions believed to be caused by chlorothiazide. On the opposite side Dodge, *et al.* (13), stated that irritability, restlessness and stupor are the usual neurologic signs of hypertonic dehydration in infants and children. Severe degrees of hypertonicity may be associated with irregular twitching, trembling, nystagmus, coma, respiratory failure and occasionally generalized seizures. High voltage slow waves and sometimes sharp spikes appear in the electroencephalogram with maximal hypertonicity but these changes correlate poorly with the twitching and trembling observed and recorded electromyographically from limb muscles. The hypertonicity interferes with functions of the central and peripheral nervous system at various levels.

Bard and Woods (14) showed that an intact hypothalamus was essential for the production of endotoxin fever in cats. Intravenous injection of a small quantity of typhoid vaccine produced an average rise in colonic temperature of 2.4° C in normal cats. This achieved an average maximum after 166 minutes and lasted from 5 to 12 hours. Similar thermal responses were obtained in cats which survived removal of all the forebrain except hypothalamus and preoptic areas, for periods of 8 months and in cats many months after decerebellation. All these animals maintained a normal core temperature during long exposures to extreme cold. Other cats were rendered poikilothermic by section of the brain stem below the hypothalamus and were studied after 24 to 349 post-operative days. When these animals were injected with the toxin, no trace of a febrile response was ever obtained. Like normal and hypothalamic cats they responded to the endotoxin with a transient leucopenia and yielded within 120-180 minutes a serum which produced a

typical endogenous pyrogen fever when injected into normal hypothalamic cats.

Harlow (15) studied the emotional growth of young monkeys. He suggested that the real mother facilitates social and sexual development but apparently normal relationships with peers can develop in spite of inadequate mothering if ideal conditions are provided for infants to develop affectionate relationships with each other. There have also been some exploratory studies to determine neurological mechanisms underlying social adjustment in monkeys. Bilateral lesions of the prefrontal and temporal neocortex have not been found to effect any affectional systems but bilateral section of the fornix has influenced the development of peer interactions.

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ELECTROENCEPHALOGRAPHY

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The purpose of this brief report is to indicate the trends which have emerged in

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this field during the past year, particularly in the areas of interest to psychiatry. Several new EEG books have been published :

Brazier(8) describes a detailed and fascinating story of the discovery of electrical activity of the brain (see also 7). A helpful atlas of EEG's of normal children was published(17). A brief summary of the present status of EEG in psychiatry will be found in *Clinical Electroencephalography* by Killoh and Osselton(28). A book on *Bioelectricity*(58) gives pertinent information; approximately 50 authors contributed to *Electrical Stimulation of the Brain*(57). Cohn presented his investigations on correlations between EEG, brain lesions and picture drawings(11).

Sleep. It has been generally accepted since the classical investigations of Bremer that high voltage, slow activity following a high transection of the cat forebrain (*cerveau isolé*) corresponds to continuous deep sleep in these animals, allegedly deprived by this operation of the centers of wakefulness. It is suggested now(59) that this observation is true only for the relatively short postoperative survival period. With a new technique overcoming the difficulties in postoperative care, the animals survived from 23 to 63 days. In such animals, alternation of sleep and wakefulness electrical activity in the permanently isolated forebrain was observed. The study of sleep deprivation and dreams have been numerous. A significant increase (from 6% to 26%) in the mean percentage of total sleep time characterized by EEG slow waves and a significant decrease (22.5% to 7.5%) in the mean percentage of total time spent in dreaming ("paradoxical" eye movement periods) was found during the first and second recovery nights after 108 hours of sleep deprivation(3, 4, 45). A major study showed that evoked responses to clicks characterise different sleep phases (slowing in stages 3 and 4; decrease in amplitude during the "paradoxical" stage)(60).

Mental Activity. Reaction time in normal individuals was shortened when the signal to respond was given during a spontaneous beta activity, but the difference was only 12 msec., much slighter than the advantage derived from a specific warning signal(13). Other investigators(14, 34) found that when such a signal caused alpha blockage, reaction times were decreased significantly

in normals but not in schizophrenics. Reaction times even increased in these patients when the warning signal was given 4 seconds before the signal to respond.

Evoked Potentials. Generally available averaging and integrating devices, permitting an easy recording of scalp evoked potentials, are responsible for reactivation of research in this field. Much effort to display the EEG effects of various sensory stimuli is being pursued with the aid of integrating devices and computers(41, 42). This technique results in an automatic mapping out of instantaneous electrical fields. This study will certainly activate other programs concerning computer analysis in EEG. As a by-product of this investigation, very slow 15-20 per minute low amplitude slow waves, independent from respiratory movements, were described(44).

A warning was voiced that some of the early components induced by auditory and visual stimuli, having an occipital predominance, may be of muscular origin(5). This is hardly the case, however, of somatosensory evoked potentials predominating on the side opposite to the stimulated nerve. Some of the components of this response are of very short latency (12 msec.) They predominate in the upper cervical region and are of unknown origin(33). A comparison of potentials elicited by various stimuli, derived from intracerebral electrodes, with the scalp ones(20), reveals two scalp components with particular topography and functional relations. One component arises chiefly in the limbic cortex as a general arousal response and is subject to rapid habituation or augmentation. The other involves frontal neocortex and is related to a laborious establishment of significant associations between stimuli(12). In the case of somatosensory responses, the following components were tentatively identified in the order of their increasing latency: component 1 is equated with a thalamo-cortical radiation response; component 2 with a primary positive response; component 3 and 4 with "secondary responses"; and component 5 with a "non-specific" classical V potential(1). The use of paired stimuli applied to the median nerve permits one to study the excitability cycle of the corresponding brain structures by

recording evoked potentials. According to the same investigators(1, 21) the early components recover in 50 msec. However, according to others, the initial recovery in normal individuals occurs within 20 msec. Two-thirds of mental patients showed less complete initial recovery than controls. These included personality disorders, schizophrenics, and psychotic depressives. Patients with "dysthymic" neuroses (anxiety, depression of psychophysiological reactions) did not differ from normals. This change is reversible after successful electrotherapy. It was also found that patients had higher amplitude evoked potentials than controls (47-55). The state of awareness influences sensory evoked potentials (increase in specific attention states, decrease in drowsiness, or when attention is directed to another sensory modality)(18, 60). The evoked responses to clicks and flashes were also studied in mental patients. It was concluded that in patients exhibiting violence and sub-normal intelligence, large responses were obtained at theta frequencies. Patients with "sadness" and agitation showed maximum responses to alpha and theta rates. Non-adaptive, tense and hallucinated patients had click responses at alpha rates only, and responses to flashes at all rates (10). Other investigators(6), who studied evoked potentials elicited by flicker found extreme variability of patterns within the same patient. The recording of intracerebral evoked responses was used for guiding neurosurgeons in localization of deep cerebral structures(23).

Rheoencephalography. This new technique deals with the recording of intracerebral impedance. It allows one to investigate cerebral vascular changes and, therefore, contributes to the study of vascular lesions(9, 27, 30). The application of the method to mental patients is still spotty and nonconclusive, although recently this method suggested abnormalities in schizophrenic patients(37, 56). Another application of rheometric method is its help in localizing the ventricles during stereotaxic surgery(43).

Psychopharmacology. A comparison of the effect of chlorpromazine, imipramine and placebo suggests that EEG frequency analysis provides quantification of neuro-

physiological changes with psychotropic drugs for psychiatric research(16). Anti-depressants, which frequently aggravate schizophrenic symptoms, accentuate pentothal effects on EEG when the symptoms are activated. A prolonged treatment in depressions produces no similar change(22). Chlordiazepoxide (Librium)(40 mg/kg for epileptic patients) elicited the following changes: 1) increase in fast activity (18-24 c/sec.3; 2) reduction of paroxysmal discharges; 3) reduction of background slow activity; 4) increase of alpha activity; 5) increase of theta activity(26). However, other investigators(19) found that with high dosages (90 mg. for several weeks) rapid rhythms disappear and the background activity slows down. Intravenous administration of chlorpromazine (3.5 mg/kg) in cats increased by 50% the amplitude of evoked potentials (elicited by sciatic stimulation) in the anteromedian hypothalamus. It also increased their latency up to 25%. The author believes that this drug affects multisynaptic systems responsible for these evoked potentials(15). Interesting results were found on oligosynaptic responses of the dorsal hippocampus following stimulation of the contralateral homologous area. Chlorpromazine did not change an average amplitude of the evoked potentials but did increase their variability. Still more pronounced increase in variability without change in average amplitudes of potentials was found following administration of JB-835 (monoamine oxidase inhibitor) and 5-hydroxy-tryptophane. It is possible that previous research has overlooked the importance of the variability of electrophysiological responses as a distinct and important physiological parameter of behavior(32, 35, 36, 39).

EEG and Clinical Psychiatry. A revival of the study of abnormal EEG in mental patients, free of any history of organic or epileptic disorder, seems to occur. The presence of paroxysmal discharges was again described in neurotic children(2); or in those with behavior problems; in some aggressive psychopaths, in somnambulism, and catatonics, particularly after an emotional "activation," (their presence is estimated at 2% in about 10,000 non-epileptics, psychotic patients)(46); in hy-

pochondriacal and hysterical patients with autonomic dysfunction, as an expression of a vicious circle between the somatic and psychotic factors(31); in psychiatric patients with neurotic and depressive states (left temporal foci), this abnormality being activated by hyperventilation and by 3 per second clicks and increased during depressive episodes (when they were associated with a peculiar sensitivity to anti-depressive drugs which can be used in only moderate dosages in these cases)(6); in schizophrenia (temporo-occipital abnormalities) with lowering of the metrazol threshold, this drug being capable of eliciting a temporal lobe seizure in some cases (40). However, other authors found that whenever mental patients showed either focal or diffuse dysrhythmic activity, even though they did not present any definite neurological signs, correlation could be established between the EEG findings and the results of pneumoencephalography(24). Still other investigators believe that the proportion of abnormal tracings in psychopaths is the same as in a normal population(29). On the other hand, the occurrence of slow posterior rhythms in adult patients (2.5-4.5 per second) without any definite neurological disease was once again analyzed. Seventeen cases were found in a population of 11,000 patients. A considerable spread of clinical diagnoses was found. A high incidence of mental and autonomic dysfunction was observed. Thirty percent of the cases had radiologically proven gastric or duodenal ulcers(38).

The presence of abnormalities in schizophrenic patients was considered from another point of view. In a population of 61 female adult patients, half of the patients had normal EEGs. The other half showed "dysrhythmic" and "abnormal" records. The patients with abnormal records showed a higher sensitivity to treatment, both from the clinical and EEG point of view. The authors believe that this type of record indicates a plasticity of the schizophrenic process(25). It seems to this reviewer that such an approach is more fruitful than the traditional comparison of the normal population with that of mental patients; namely, to determine in what way the presence of abnormality may affect an individual pa-

tient in a group of patients clinically diagnosed in a similar way. The incidence of a narrow pelvis is as high in pregnant women as in the general population; yet, its presence affects the type of delivery.

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CLINICAL PSYCHOLOGY

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In this review the contributions of both clinical and non-clinical psychologists to a variety of problems of relevance to psychiatry are presented.

Pregnancy and Birth. In Grimm's(15) extensive study of tension and pregnancy there was a significant positive relationship between the index of tension and amount of weight gained during pregnancy and length of the second stage of labor. Mc-

Connell and Daston(23) found that positive versus negative attitudes toward the pregnancy were significantly related to Rorschach barrier and penetration body image scores. Davids and DeVault(10) found significant differences in anxiety, on a number of measures, between groups of women who had normal versus abnormal (complicated) deliveries. The only measure on which the groups did not differ was the patient's own direct rating of anxiety.

Personality Development. In view of the

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recent widespread interest in the effects of maternal deprivation upon subsequent personality development, Yarrow's (35) critical review is of some importance. The one finding of which there seems to be little doubt is that sensory deprivation over a sufficiently long period during the first year of life is likely to be associated with severe intellectual damage.

How children get along with their peers is of predictive importance for later conduct. Child guidance cases who had difficulty in peer adjustment, compared with cases who did not, had significantly higher "bad conduct" ratings while in the military, Roff (27) reports. An experimental investigation of the process of identification by Bandura and Huston (4) indicates that subjects who experienced a previous rewarding interaction with a model (adult) imitated the model to a much greater extent than did subjects who experienced a cold and distant relationship.

In view of the importance accorded to the development of conscience or superego in psychodynamic personality theory, an extensive study of moral responses to transgression in children by Aronfreed (1) is noteworthy. The responses of the children to a projective test were studied in relationship to social class, sex and mother's punishment practices. All three were found to be significantly related to the children's moral responses. The strong effect of social class led Aronfreed to the conclusion: "The marked social patterning of the moral responses . . . should be treated as distinct moral phenomena and not as equivalent reflections of an underlying unitary phenomenon such as conscience."

Normality and Adjustment. While most workers would agree that preoccupation with the abnormal has provided a one-sided emphasis for theories of behavior, studies of "normal" individuals have been rare. One such by Bonny (6) indicates that 30 "normal" undergraduate psychology students, who were nominated by their peers as "good representatives of your conception of a normal personality," had many unfavorable objective conditions in their developmental histories, e.g., severe parental rejection, broken homes. Twenty-six described one or more rather serious psy-

chological stress or social conflicts which they had experienced or were still involved in. Trauma, early unhappiness and stress are not sufficient explanations for the development of behavior disorders.

In another important study, a representative sample of the resident population of adults in the United States was interviewed about their feelings of distress in different life areas. Veroff, Feld and Gurin (31) identified four factors of distress common to men and women in their everyday life: felt psychological disturbance; unhappiness; social inadequacy; lack of identity. The emphasis is placed upon different areas of distress varied as a function of sex role and education, the latter being one important index of social class.

Learning, Perception and Awareness. An important contribution demonstrating the long-term retention of a conditioned response is provided by Edwards and Acker (13). A group of navy veterans responded to the battle stations signal with a significantly greater galvanic skin response than a control group of army veterans. To account for the results, the authors refer to Gantt's conception of schizokinesis, that is, the persistence of inappropriate conditional visceral responses long after the somatic motor components disappear.

The psychological literature for 1962 is replete with studies of verbal reinforcement which have implication for clinical interaction. For example, Marlow (22) reinforced, by "saying Mm-hm in a flat monotone," positive self-references in the responses of subjects to four general questions about their life situation. Subjects who were previously rated high on need for social approval produced significantly more positive self-references than a comparable group who had a low need for social approval. Further, in answer to a series of questions at the end of the interview none of the subjects were able to state the contingency, i.e., the relationship between the experimenter's "mm-hm" and the nature of the content which was being reinforced.

Salzinger and Pisoni (29) found schizophrenics responsive to the reinforcement of statements of affect within a 30-minute session. Ten or more reinforcements were necessary in order for the conditioning effect

to be manifest in their schizophrenic groups. Waskow(32), on the other hand, using "reflection" of feeling, a combination of feeling and content, and content only, with groups of college students found that only the group who had the latter condition responded to the reinforcement. While differences in method and subjects may account for these different results, the moral is rather clear: easy and glib generalizations cannot be made from verbal conditioning studies to psychotherapy.

A continuing debate is present concerning whether subjects who respond to reinforcement are aware or unaware of the relationship between the content being reinforced and the reinforcing agent, *i.e.*, the contingency. Behavior, awareness and a number of other issues are discussed at length in an important symposium edited by Eriksen (14).

Assessment Process and Techniques. One of the most vexing problems to clinical psychologists is the discrepancy between the subjective certainty of the experienced clinician concerning his interpretation of his assessment techniques and the lack of objective demonstration of predictability when put to experimental tests. Horowitz's(18) study is an example of the dilemma. She found that skilled clinical psychologists were able to predict therapists' descriptions of patients significantly better than naive judges, and that clinicians using test materials plus biographical information could predict significantly better than clinicians using biographical materials alone. However, their best predictions were not significantly different from the base rate predictions! Holt(17), in a thoughtful article, concerns himself with aspects of this troublesome problem. He believes that the essence of clinical work lies in interpreting verbal meanings and considers a number of methods for doing this; the title of his article, "Clinical Judgment as Disciplined Inquiry," reflects this emphasis.

An example of the type of study which seems promising for the unraveling of the process of clinical judgment is that of Mahrer and Young(21). Over a thousand judges, psychiatrists and psychologists in the VA made a diagnostic statement on the basis of sentences serving as cues or cue

combinations. The results suggest that the utilization of combination of cues is a complex and multi-determined process, but has predictable characteristics.

A new 20-minute standard interview is reported by Wittenborn, *et al.*(34). In addition to content latency, duration of speech and non-verbal behavior are recorded. Wittenborn found the latter variables significantly related to anxiety, hysteria, hypomania and depression. Such a tool should have use in a wide variety of research contexts. A "Minimal Social Behavior Scale" has been demonstrated to be reliable and valid in differentiating regressed from non-regressed patients and should be useful as a criterion measure in research with chronic neuropsychiatric patients(12). Aumack(2) devised a useful rating scale which deals with two aspects of psychiatric patients' social adjustment: work level and socialization level.

The issue of test response bias or set, that is acquiescing or presenting self in a favorable light (or the obverse) on the personality-type questionnaires, has received extensive investigation throughout the year. McGee(24) reviewed many of these articles.

Behavioral Change and Psychotherapy. The application of learning theory to problems of behavioral change and psychotherapy appeals to many psychologists. Boardman(5) presents an interesting case study of a child in whom remission of symptoms was achieved by application of "simple learning theory principles." No psychotherapy was given; rather, the parents were instructed to reward desired behavior immediately while important gratifications were to be withheld during periods of misbehavior. In the case example, the parents essentially applied punishing procedures. Both Bandura(3) and Miller(25), who comment on Boardman's approach, point out that much of the literature, in both the animal and human areas, indicates that reward is more effective in changing behavior than punishment. Murray(26) in an invited study of Rosen's direct analysis technique finds that, from a learning theory point of view, Rosen punishes psychotic symptoms, extinguishes anxiety about family conflicts through encouraging the expression of culturally prohibited family feelings

and positively rewards transference statements. Again, as in Boardman's approach, Rosen's punishment practices are questioned. Wolpe's systematic desensitization techniques were applied in group treatment of phobic disorders by Lazarus(20). Follow-up studies and comparison with groups treated by interpretive psychotherapy revealed a striking effectiveness of the sensitization technique.

The importance of the therapist's reaction to dependency statements in the initial interview is noted by Winder, *et al.*(33). A group of terminators in psychotherapy had significantly higher avoidance of their dependency statements by their therapists than a group who stayed in psychotherapy. A second aspect of the study indicates that approach and avoidance responses to dependency statements by the therapist elicit more and less, respectively, subsequent dependency statements by the patients, a finding typical of verbal reinforcement studies.

Cartwright(8) replicated an earlier study which found that patients after psychotherapy showed greater consistency in the self-picture. While controls (not receiving therapy) also increased in consistency over time, the psychotherapy group showed qualitative changes in self-concept while the controls merely seemed to be consolidating previous impressions.

An interesting study by Carson and Heine(7) noted a curvilinear relationship between improvement as a result of psychotherapy and degree of similarity of personality of the therapist and the patient. Extremely similar or dissimilar therapist-patient pairs had significantly lower therapeutic gains than those pairs who were medium to slightly above average in dissimilarity.

The orientation of psychotherapists on a number of different scales related to psychotherapeutic practice was evaluated by Sundland and Barker(30). Psychoanalytically oriented psychologists and Rogerian psychologists differed on most aspects of the therapeutic process. The interpersonally-oriented (Sullivanian) psychotherapists tended to fall between the two. Experienced psychotherapists were more similar to inexperienced psychotherapists of their own school than to therapists of the other schools

of thought. While this finding seems to contradict the commonly held belief that experienced therapists of all schools are more similar, it should be noted that the present study dealt with attitudes rather than the therapeutic protocols.

Psychopathology. In a clear, well-reasoned paper, Zigler and Phillips(37) evaluate the logical status of psychiatric diagnosis as a classificatory system. They state that if psychiatric diagnosis is approached with assumptions that prognostic and etiological statements are necessary correlates of such description, then the present diagnostic system may be considered faulty and vague. They suggest that such assumptions are premature and that diagnosis is eminently justifiable when viewed as a way of classifying symptoms. They call for an open and expanding system of classification.

In support of their position, Zigler and Phillips(36) provide a tripartite classification of symptomatic behavior: 1) "self-deprivation and turning against the self," 2) "self-indulgence and turning against others" and 3) "avoidance of others." While there is some relationship between the symptoms and traditional psychiatric classifications, the amount of information conveyed about symptomatology by assignment to diagnostic category is minimal. Further, Zigler and Phillips(38) find their classification of symptomatology to be highly related to premorbid social competence scores. Perhaps a combination of the traditional diagnostic system, without its etiological and prognostic correlates, and the symptom cluster analysis of Zigler and Phillips would be a more meaningful approach to the problem.

The process-reactive distinction in schizophrenia has received much attention. Heron(16) reviews much of the research in this area, especially studies which utilize the following scales as criteria: the Kantor, Wallner and Winder items, the Elgin Prognostic Scale and the Phillips Scale. He concludes that while the process-reactive studies have succeeded in explaining schizophrenic heterogeneity in a more meaningful manner than traditional diagnostic groupings there remains considerable work to be done in quantification on these scales. Chapman, Day and Burstein(9) point out that

both the Elgin and Phillips scales, although providing quantification of premorbid factors, do not consider sub-cultural and regional sociological differences and accordingly are limited in their application. Kantor and Jackson(19) review a number of findings relating life history variables to symptoms and prognosis.

Zigler and Phillips(38) conclude that the process-reactive distinction in schizophrenia is reducible to a social maturity-competence dimension; they suggest that the social maturity dimension is applicable to all psychopathology. In support of their position are the findings of Rudie and McGaughran(28). The most significant differences between "reactive" and "essential" alcoholics were found on variables similar to those constituting the social competence scale of Zigler and Phillips. If social maturity is the fundamental variable, then certainly Chapman's critique of the present scales, *i.e.*, the fact they may not be valid for certain subcultures and societies, must be considered.

In conclusion it might be noted that the frequency with which the phrase "varied as a function of social class" (or its equivalent) has appeared in this brief survey emphasizes the importance of the social psychological approaches to the theoretical and empirical study of human behavior.

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CLINICAL PSYCHIATRY AND PSYCHOTHERAPY

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CLINICAL PSYCHIATRY

Since a considerable proportion of publications in the field of clinical psychiatry is involved with or centered in pharmacodynamics, a subject which is reviewed elsewhere in these progress reports, our focus is limited to the selection of a few contributions which we consider to be informative in terms of mental mechanisms and psychotherapy. The following selected samples are not intended to imply that there are not many others, among the great mass of published studies deserving of special notice if space permitted.

Atkin(1) in discussing mental disorders and external stress believes the concept that these disorders are increasing is only an impression. He holds that indirect external stress has been given an unjustified importance as an etiological factor. In fact, it is a normal aspect of living. Degrees of stress may be pathological for a certain individual, but there is no evidence that its quantity has increased. Anxieties about "wearing out" and "nervous collapse" are greatly exaggerated. He points out the fact that tranquilizing drugs are being prescribed in a rapidly increasing fashion, and that an iatrogenic disorder called "stress phobia" may be in the making.

Ward, *et al.*(2), of the University of Pennsylvania Medical School in a study of the psychiatric nomenclature to ascertain reasons for disagreements in diagnosis utilized a series of psychiatric outpatients. These were interviewed separately and diagnosed independently by random paired psychiatrists so that each patient was seen by two different diagnosticians with a few minutes interval between the interviews. There was diagnostic disagreement in about half the cases. The authors give nine separate reasons for this, but the items fall into

three categories: 1. Inconstancy on part of the patient (5%); 2. Inconstancy on part of the diagnostician (32.5%); and 3. Inadequacy of the classification system (62.5%). The inconstancy on the part of the interviewers was frequently due to the differences in obtaining covert material and identifying the predominant pathology. The chief difficulties with the APA *Diagnostic and Statistical Manual* were the

requiring impractically fine distinctions as in the diagnosis of psychophysical reaction as opposed to conversion reaction; requiring unnecessary decisions of weighing as in the forced decision of predominance between neurotic and personality disorder when both are present; the lack of clear criteria as in distinguishing certain reactions now labeled schizophrenia from neuroses or schizoid personalities.

A rather extensive theoretical article was published by Arieti(3) entitled the "Microgeny of Thought and Perception." It is held that thoughts and perceptions pass through several unconscious stages before reaching consciousness. These are called "microgenic" (Werner) stages. The existence of these is inferred by the study of pathologic phenomena such as acute and chronic schizophrenia, some psychoneuroses, aphasias, agnosias, and certain brain injuries. Some experimental investigations dealing with subliminal perception and with stabilized images have contributed to the concept. Thus there is some accumulated evidence that thoughts and perceptions tend to reach consciousness before they have completed their microgenetic development. The relationships of these processes to neuroses and psychoses are discussed.

A study of the reactions of psychiatric patients to danger, particularly to mental hospital fires, was made by Schooler and Parkel(4). "The objective of this study is to determine whether the presence of immediate danger reactivates relatively normal modes of behavior in chronic mental patients." The reactions were evaluated by analysis of the hospital fire records, and data from interviews with the patients who

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had been in the fire situation. The reaction was found to be related to the length of hospitalization and to the diagnosis. The longer the hospitalization the more likely the patient will be relatively unconcerned about his personal safety or that of others. Chronic schizophrenics showed the lack of initiative, in keeping with the usual ward behavior, even in the presence of immediate danger.

Disturbances of body image have been recognized as present and important by many authors. The concept has been extended to include sensations from inside the body. Bruch(5), in her study of the falsification of bodily needs and body concept in schizophrenics, points out that these patients, to various degrees, are unable to identify bodily sensations in the same way as normals. They become falsified and distorted. Bodily sensations, thoughts and feelings are experienced as coming from outside themselves and thus from others in the environment. Therapy is rarely effective, if at all, in the absence of self-initiated activity. The therapeutic aim is to create an awareness in the patient of the origin of his bodily sensations. Multiple somatic complaints as a precursor of schizophrenia is the subject of a report by Offenkrantz(6) which is a part of a larger study based on a review of the medical records of 455 Veterans Hospital patients. The aim of the study is the attempt to determine the premorbid characteristics of those persons who later develop the recognizable disorder. He presents evidence to indicate that a high proportion of these patients showed clinical evidence of a mental disorder while in military service prior to the onset of an obvious schizophrenic process. Also the findings indicate that the disorder was characterized in part by multiple somatic complaints which may represent classical hypochondriasis.

As to background factors in schizophrenia Pokorny(7) studied 40 white male veterans with schizophrenia at the VA Hospital at Houston, Texas, using a detailed interview covering 9 areas of family background and life adjustment. These findings were compared with those of two control groups of patients suffering from tuberculosis (a "regular discharge" group and an "irregular dis-

charge" group). There were no significant differences in family background, but as compared with the "regular discharge cohorts, the schizophrenics showed poorer childhood health, poorer adjustment in school and in social relations at all periods, and showed more religious participation in childhood, more alcoholism, more military maladjustment and greater difficulty in adult occupational adjustment." The author concludes, "It may be that these represent factors leading to schizophrenia—but equally likely—they may be the early symptoms of schizophrenia." To investigate the factors related to outcome and social adjustment in schizophrenia, Mandelbrote and Folkard(8) followed 171 outpatients after their discharge from a mental hospital during periods from 2-4 years. There were 96 (31 men—65 women) considered "well" and 75 (29 men—46 women) "not well" as rated at the time of interview. Stress situations where the patient's behavior upset the family are described for various combinations of situations in conjugal families and parental families. The article would seem to be of particular value to those psychiatric social workers concerned with the family care of patients.

A follow-up study of the course and outcome of 109 patients with pseudoneurotic schizophrenia was reported by Hoch and coworkers(9). The period of study was 5-20 years. Sixty percent of the patients had been seen first at the New York Psychiatric Institute and 40% in clinics or private practice. Two-fifths of the group had had previous episodes of mental illness (inpatients, 42%—ambulatory, 31%). There was a significant incidence of subsequent hospitalization. Approximately 40% of the entire group were rehospitalized 1 to 9 times; 10% attempted suicide but only 2 patients succeeded. At the time of the follow-up study approximately two-thirds of the patients were found to have a good or fair adjustment. A comprehensive discussion of several factors involved in the diagnosis, evaluation and results in this type of schizophrenia are presented. Cowden and Ford(10) presented a method of systematic desensitization with phobic schizophrenics. In a previous study the authors demonstrated in a laboratory situation that schizo-

phrenics respond to systematic desensitization. In the study they have applied the technique to the clinical symptoms of two paranoid schizophrenic patients with fixed phobic reactions. The technique is described and illustrated by the case histories. As a result, they conclude that desensitization is an effective technique for some subjects, which neither supports nor contradicts theories regarding biochemical or physiological etiological factors, but shows that learned behavior can be unlearned even with psychotics.

Schwartz(11) presents 3 cases to illustrate a type of paradoxical remission that can occur in a severe psychotic disorder. All 3 patients were hospitalized and the remissions occurred immediately after a part of the treatment program was abandoned, which abandonment was characterized by a change from hope to hopelessness on the part of the medical and nursing attendant. The hypothesis is expressed that the surrender of therapeutic endeavor confronted these patients with a threat of disaster in the face of the lack of ability of others to protect them. In response they apparently found latent ego strengths within themselves to meet the situation. The mobilization of several ego defenses led to the remission.

Perpetual distortion as an etiological factor in certain paranoid reactions is the subject of a report by Sarvis(12) who states that marked interference with accurate perceptual evaluation of the external environment such as that from sensory deprivation, overload, or distortion occurring in experimental situations, in temporal lobe disease or constitutionally, tends to create psychic mental reactions. The author presents the hypothesis that this perceptual distortion tends to force the individual into a paranoid reaction which may then be segregated, become identified with an aggressor, pass into an autistic reaction or develop into a paranoid character. Levy and Grigg(13) made a study of the early memories of 21 patients utilizing a thematic configurational method of analysis. No clinical material other than the sexes of the subjects was used. The attempt was made by each of the two authors independently to match their formulations with those

from the therapists. They found it possible to predict preconscious themes from early memories and that the thematic configurational method of analysis as applied is a reliable one which can be communicated. The study is a preliminary one to test the predictive value of early memories, and the results invite additional work with a larger number of patients.

Stephens and Kamp(14) report an interesting survey of the various aspects of hysteria including the clinical manifestations, factors of immaturity, dependency and childhood affectional deprivation, and the libido theory. Examples are given from the literature and from personal experience where the basic reaction turned out to be schizophrenia. Their review of the whole situation does not support the belief that conversion reactions are disappearing. Diagnosis is probably faulty in many cases. Their summary states

The records of 100 inpatients diagnosed as hysteria, after study and treatment at the Henry Phipps Psychiatric Clinic between the periods 1913-1920 and 1945-1960, were studied. The admission rate was not found to be appreciably different in the two periods nor were the reported symptoms significantly different.

They suggest the "need for further research integrating recent developments in ego psychology and concepts of hysteria." Recently interest has been expressed regarding the incidence of color in dreams; for example, Kahn and associates(15) studying immediately recalled dreams found that color was present in 82.7% of dreams of 38 subjects (28 males-10 females), college students and others, ranging in age from 18 to 35 years. Careful questioning close to the time of dreaming apparently brings the color incidence considerably higher than has been previously reported by several investigators using questionnaires and other procedures.

The complex problems of psychiatric management of intersexed patients are discussed by Stoller and coworkers(16). They describe a heterogenous group with ambiguities of the external or internal sex organs or with conflicts between the appearance of the external genitals and sec-

ondary sex characteristics. Most of the patients were diagnosed as pseudohermaphrodites. The type of therapy naturally depended upon the correctability of any anatomical defects, the age of the person and the possibility of changing a sexual identification. They found it difficult to change the sexual identity of children after $2\frac{1}{2}$ years of age. Where supporting psychotherapy is used it should include the family. Psychoanalysis was thought to be not indicated.

Suicide has become a major medical problem. There were 16,760 cases reported for the United States for 1957, not taking into account the number reported as "accidents" that were actually suicidal in nature. At present the rate is much higher, and suicide is now considered to be the fifth most frequent cause of death in the U. S. The ratio of unsuccessful to successful attempts is not known, but some authors have placed it as high as 5 to 1. The subject of suicidal attempts in adolescence and childhood was approached by Bergstrand and Otto(17) who reviewed the case notes of patients under 21 years of age, from 465 hospitals in Sweden. There were 1727 cases (351 males and 1376 females) in a 5-year period (1955-1959). It was found that the frequency of suicidal attempts increased with age. The majority (83%) of attempts were among those in lower income groups. The most frequent cause given was love problems (30%), a number of incidences were apparently due to alcoholism, mental disorder in the parents and to broken homes. Girls were in the majority in the above categories. Boys constituted a large percentage of those with school problems, and were largely in the group with mental and character disorders. Ingestion of drugs was the method in 87% of total incidences, but violent methods and repeated attempts were more frequent in boys; they more often required continued psychiatric therapy. Attempted suicide by adults was studied by Tuckman and associates(18). The investigation was concerned with 1,112 attempted suicides by persons 18 years of age, or older, who came to the attention of the Philadelphia Police Department from 1959 to 1961. This includes persons who died as a result of the attempt, as well as

some of those who were doubted as to a serious genuine attempt. Information was sought for any relationship of the event to sex, race, marital status, educational background, occupation, employment status, location of residence, circumstances leading to the attempt and method used, previous patterns of adjustment or reactions to the various life situations, motivation and attitude toward death. Naturally many important factors were not obtained, related or due to unconscious forces. This report will require reading to obtain the details of a wide sweep of material.

PSYCHOTHERAPY

The number of schizophrenics treated with various forms of psychotherapy, which vary considerably in their theoretical aspects and clinical application, is increasing rapidly. Arieti(19) emphasizes the establishment of the patient-doctor relatedness in terms of transference and the equally important counter-transference, with the creation of mutual trust. The development of insight into the psychodynamics of the patient's life situation and into the manner in which conflicts and distortions have taken place, and a general participation in the patient's life with assignment of tasks and suggestions of activities for the purpose of developing gains in self-evaluation and capacities, are the major issues involved. Meares(20) in an article entitled "What Makes the Patient Better? Atavistic Regression as a Basic Factor" points out that a notable number of patients have been known to lose their symptoms during vastly different medical and non-medical procedures, such as talking freely with the family doctor, abreaction, suggestion, a variety of organized psychotherapies, prayer, yoga and Zen practices, autosuggestion, *etc.* The author holds that suggestion, insight and doctor-patient relationships are not fundamental as the universal therapeutic mechanism, but that atavistic regression which is described as a return to a primitive mode of mental functioning is the important thing. This may be induced in the mentally troubled in the absence of insight and with little suggestion. Normal persons experience this type of regression in states of reverie. Lidz(21) describes how family studies in

psychiatry have received a strong stimulus from psychoanalysis and how some of these have operated or been used and thought about by previous workers; and, moreover, what seems to require reorganization of thought and practice in this field.

The fear of vocational success is a reaction which has been studied by Oversey (22) who reports interesting case histories to show that this particular fear is a phobic extension of paranoid reaction. His paper describes the adaptational psychodynamics of success phobias and shows a practical application in the conducting of the psychotherapeutic procedure in terms of the choice of therapeutic goals. Not all patients benefit from the attempt to overcome these fears; some lack sufficient "ego strength" and may collapse. The therapy can be seriously handicapped in those cases complicated by depressive reactions, even by suicidal attempts, alcoholism, drug addiction, acute anxieties and paranoid hallucinatory states. It may become necessary to institute pharmacologic aids, ECT or temporary hospitalization. In a paper on transference dynamics of group therapy Farrell (23) asks the question "What is therapeutic in group psychotherapy?" The hypothesis is "that the understanding and resolution of the multiple transference constellations which arise and exist among group members and therapist is the therapeutic experience." The author develops his concept in four parts describing which transference reactions occur; how the group in the character defense interactions of its members personifies and dramatizes the conflicts of the members; why the transference reactions follow an outlined pattern; and the final part dealing "with the qualitative and quantitative differences of transference in group psychotherapy as compared to individual therapy, and the inherent therapeutic advantages of these differences." The termination of therapy as a problem in a community outpatient psychiatric clinic is discussed by Schiff (24) who points out that the phase of termination, above all others, in the psychotherapeutic process is the one which may produce the greatest difficulty and create complicated problems for both patient and therapist. He describes the outpatient clinic setting and its role

as contributor to the difficulties. Problems unique to this phase of therapy for the patient are pointed out as well as the difficulties encountered by the therapist.

There has been a marked increase in experimental interest in hypnotic phenomena but very few quantitative studies have been made on perception during hypnosis. Kliman and Goldberg (25) record the result of a pilot study of 10 healthy males with a special method for measuring visual recognition thresholds of words seen in the hypnotic state as compared with the waking state. The findings suggest that visual recognition occurs at a lower illumination in the hypnotic state and that the range of recognition thresholds is narrower. Words requiring the highest illumination for recognition in the basic waking state are recognized with less illumination in the hypnotic state. This last mentioned is very pronounced. It is suggested that "attention cathexis" is more impartially available when perception defense avoidance is suspended during the hypnotic state. Barber (26) in an extensive, pertinent article criticizes hypnotic research methodology. He deals with referents of the term hypnosis, subject variables, the "good" hypnotic subject as his own control, the use of control groups, the interpersonal relationship, motivational factors and the definition of the situation, and Sloane and associates (27) have made a critical review of "hypnotic age regression" challenging some of the interpretations of previous authors on this subject. The attitudes of psychiatrists to the use of hypnosis have been outlined by Auerbach (28). To determine the extent of the use of hypnosis in psychiatric therapy a questionnaire was sent to 828 psychiatrists in California; 469 responded who had had experience with the method; only 13% still used it in selected cases. Several reasons were given for abandoning hypnosis. Among these were unpredictable, inconstant and non-lasting results; doctor-patient relationship may become impaired; untoward results occur with poorly trained hypnotists, commonly precipitating a psychotic episode, a panic state, a depression or even suicide. There has been really very little added to the knowledge of hypnotic states for the last 200 years despite studies by medical socie-

ties over the major civilized countries; and it is rightly emphasized that much research is needed to delineate the proper areas of application of hypnosis and the limitations made more definite.

The usual large number of generally helpful psychiatric books has appeared during the past year, but we may list only a few of these that seem pertinent to this section on Clinical Psychiatry.

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PSYCHOPHARMACOLOGY AND PHYSIOLOGICAL TREATMENT

JOSEPH WORTIS, M.D.¹

Thalidomide : In this annual review two years ago a British report was cited which described a new drug thalidomide as a

safe non-toxic sedative. Under the trade name Contergan it had been sold freely without prescription in Germany where it quickly became a most popular tranquilizer(1). Soon afterwards it was available

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in Britain as Distaval, in Canada as Talimol, and was distributed for clinical trial here as Kevadon(2), though the Food and Drug Administration held up its license because it was reported to produce polyneuritis(3). In 1961 Lenz in Germany and McBride in Australia independently and almost simultaneously related the drug to the occurrence of a severe fetal malformation of the limbs called phocomelia, a relationship soon confirmed by Spiers in Scotland, and others. The drug was thereupon withdrawn from the market, but not before thousands of deformed infants had been born in Germany, England and elsewhere(4). A single dose early in pregnancy is sufficient to induce fetal death or damage: in animal experiments all gravid rabbits fed thalidomide produce stillborn or deformed offspring(5). Widespread concern in this country hastened the enactment of a number of new laws proposed by the Kefauver Committee to safeguard the public interest in the drug trade: the Food and Drug Administration now has far greater authority to halt or recall drugs, can insist on fuller safeguards, and can supervise advertising(6).

The thalidomide affair has directed interest to the special problems of insuring drug safety for human beings, particularly in sustained use; acute toxicity for animals is no longer an adequate criterion. Large populations under chronic medication now must be surveyed to detect low grade, sporadic and fetal toxicity. From this point of view it can be recalled that several years ago Roux showed that prochlorperazine (Compazine) can induce fetal death or malformation in laboratory animals(7). It can also induce fatal bone marrow aplasia in man(8). In a series of reports Werboff and his associates have demonstrated that various psychotropic drugs administered to the gravid rat not only increase neonatal mortality, but also effect the development, behavior and neural responsiveness of the offspring, with changes persisting into adult life(9). There is some evidence that chlorpromazine and other neurotropic drugs may sometimes cause irreversible brain damage, especially in predisposed subjects(10). Prolonged administration of certain MAO inhibitors to dogs can also produce CNS

lesions, indicating "the danger of delayed toxicity with chronic administration of some drugs"(11). Chlorpromazine (Thorazine) and promethazine (Phenergan) definitely hamper the development of the rat(12). The significant amount of glycoprotein serum change found in patients under chlorpromazine is noteworthy, even if unrelated to clinical signs(13). Attempts are now being made to review the patterns or morbidity found among patients under chronic medication(14).

Overdosage of reserpine can induce gastrointestinal hemorrhage and ulcers in animal and man(15, 16). Pheniprazine (Catron), nialamid (Niamid), and phenelzine (Nardil) can all induce hepatitis, which can be fatal(17). Imipramine (Tofranil) can cause agranulocytosis(18). Five cases of visual impairment, including two cases of optic atrophy, from pheniprazine have been reported(19). Among the remote effects of the newer drugs may be mentioned the dangers of faulty deglutition and fecal impaction(20). Addiction to many of these drugs is a continuing concern. Kiloh and Brandon(21) estimate that in a British urban community approximately 1% of the population use amphetamines, and about one-fifth of these are addicts who find ways of getting the drug on a continuing basis.

Reviews and Comparisons: Several brief reviews on psychopharmacology can be recommended(22-25); Lehmann's(26) is especially clear and authoritative. Many of the new reports attempt to compare the efficacy of the varied physiological agents now in use or to define their indications. Although statistical groupings of depressed patients may show the same responsiveness to either drugs or electroshock treatment, some patients still need EST(27), and the quality of remission varies with each agent. Oltman and Friedman(28) believe remission in neurotic depression is better maintained with drugs; Witenborn, *et al.*(29), also think imipramine benefits total behavior more than EST. But where drugs cannot supplant EST, they can shorten it(30). For quick and intense effect EST appears to be the method of choice(31-33). Cannicott(34) finds that unilateral stimulation produces less confusion and memory loss. H. G. Alexander(35) claims a very

high response rate in both acute and chronic schizophrenia to a combination of the very potent (and sometimes toxic) fluphenazine (Permitil or Prolixin) and intensive daily EST(36). On the other hand, the combination of EST and imipramine often induces a bad manic state(37).

In a large predominantly schizophrenic population treated with various phenothiazines, mepazine (Pacatal) and promazine (Sparine) did poorly(38). Trifluoperazine (Stelazine) is said to be especially effective in paranoid schizophrenia(39, 40), and is one of the few drugs which can favorably influence compulsions(41). Chlorprothixine (Taractan) is reported to be a quick and effective initial sedative in all types of psychomotor agitation, including delirium tremens(42, 43). A large number of reports on thioridazine (Mellaril) endorse its value and ease of administration in both acute and chronic psychoses(44-47), including senile disorders(48), though leukopenia(49), impotence(50), and jaundice(51) have been noted. Another series of reports confirms the value of chlordiazepoxide (Librium) in a wide variety of neurotic and milder disorders(52-54), though it may induce curious *absences* or sleep attacks which can cause accidents(55, 56).

Carphenazine (Proketazine) is said to be superior to other phenothiazines for the hypodynamic chronic schizophrenic. Side effects of parkinsonism, akathisia, tremors, agitation and perspiration are relatively mild; occasional leukopenia, liver dysfunction and visual disturbances have also been reported(57-59). In an interesting and well-planned regional study in Scotland(60) involving three hospitals no significant changes in behavior were found among patients treated with chlorpromazine (Thorazine), prochlorperazine (Compazine), and placebo, though another group here(61) found prochlorperazine effective for acute psychoses and for maintenance treatment. Favorable reports on trifluoperazine are noted(62), but a severe protracted extrapyramidal motor reaction was encountered in a child after administration of two 35 mg. suppositories in a 12-hour period(63).

Amitriptyline (Elavil) is said to be at

least as effective as imipramine (Tofranil) for endogenous depression, but less effective for reactive depression; it has fewer side effects (except possibly seizures), induces improvement more rapidly, and has fewer relapses(64). In another carefully documented study it was easier to demonstrate the value of imipramine for endogenous than for neurotic or schizophrenic depressions(65). In agitated depressions a combination of imipramine and promazine (Tofranazine) is recommended highly(66). The common occurrence of withdrawal symptoms after imipramine treatment deserves more attention(67). Nialamid (Niamid) is being widely and successfully used for depressions(68, 69), can be given intravenously(70), and is well tolerated by the aged(71). Nevertheless some observers report that phenelzine (Nardil) is better suited for the older patient, and nialamid for the patient under 40(72).

The MAO inhibitor tranlycypromine (Parnate) is attracting considerable attention. In a thoughtful report Bartholomew(73) concludes that EST is still indispensable for the severe depression that demands prompt relief, but "that people with minor depressive states might well receive Parnate as an adjunct to supportive psychotherapy." In agitated and neurotic depressions it can be combined with a tranquilizer such as trifluoperazine (Parsteline)(74-77). Several favorable reports have appeared on the use of haloperidol (R1625) for manic states, including post-operative excitements, agitated hallucinosis, toxic alcoholism or impending delirium tremens(78-80), though it is of limited value in chronic schizophrenia(81).

New Drugs: Among the many new drugs may be mentioned: acepromazine (Notensil), found effective and well tolerated in acute schizophrenia(82); propiomazine (Largon), which induces rapid sleep lasting 2-3 hours after intravenous administration(83); protipendyl chlorhydrate (Dominal in France) for chronic cases, for acute alcoholic disorders and for relief of anxiety-tension states(84, 85); chlorproethazine (RP4909) with an action similar to other phenothiazines, but with a paradoxical anti-parkinsonism effect and a selective action

on certain motor symptoms(86); the very potent new phenothiazine SKF 7261(87); a thioxanthen analogue of perphenazine (Clatyl or Sordinol in Europe) said to be very effective in chronic schizophrenia(88); acetophenazine (Tindal), useful in ambulatory and old schizophrenics, but with very marked somnolent action(89, 90); butyrylperazine, with contradictory reports from here and abroad(91, 92); thioproperazine (Dartal), said to be useful(93), though a sudden death from respiratory paralysis has been reported(94); butyrophene carbamide (R3345), a dipiperon related to haloperidol with a pleasant hypnotic action and an anti-psychotic and anti-anxiety effect(95); the mild piperazine phenothiazine MDS92(96); cyclopentimine (Cypentil), which reduces aggressiveness and induces euphoria at the cost of distressing side effects(97); tetrabenazine (a Roche product), which is said to relieve acute excitements as well as neurotic and reactive depressions(98); the benzhydryl derivative KT-5(99); the benzoquinolizine derivative P-2647(100); and benzquinamide (Quantril)(101)—all of which relieve anxiety. A recent issue of *Acta Neurologica Belgica*(102) was devoted to dixyrazine (Esucos), which combines a phenothiazine nucleus with the hydroxyzine side chain, and can be best described as an autonomic sedative useful in various neurotic and psychosomatic disorders, especially those associated with agitation.

The following new antidepressants or stimulants also claim attention: Ensidon, a sort of combination of imipramine and perphenazine(103); RP 8228(104), good for narcolepsy and asthenic depressions; the hydrazine Dicatron(105); trimpropimine (RP7162)(106), used with chronic resistant schizophrenics and psychopaths; a new MAO inhibitor PC603(107), said to be effective in neurotic and reactive depressions and obsessions; etryptamine acetate (Monase)(108), a mild but effective antidepressant; RO4-1575(109), structurally close to imipramine and chlorpromazine; the theophyllin derivative called Captagon (110) in Germany (Homburg 814); the hydroxybutyrate S 186(111); a close relative of imipramine and amitriptyline N7001(112); Desipramine (G35020)(113);

and Abbott's new MAO inhibitor MO-911 (114), described as "one of the most effective antidepressant agents available."

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PSYCHOSURGERY

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$N=3,000$; Chi square=160.5; Df=7; $P<.000001$; $C=.37$.

"In other words a highly significant decline of good results with increasing duration of illness." Roth and Garside(24) continue: "A great advance would be registered by the introduction of some form of treatment less transient in its effects than ECT, less irrevocable in its consequences than operations on the frontal lobes."

Renewed interest in psychosurgery has developed in England as a consequence of the ineffectiveness of electroshock and of the psychotropic drugs in many emotional disorders. Pippard(21), in a survey of 525 operations performed in various hospitals in 1960-1961, notes that the reduced number of operations from the previous decade is almost confined to the "standard" leucotomy. "The standard or its anterior modification still accounts for nearly one-fifth of all operations; it is on its way out, but all too slowly, and should be finally abandoned."

At the same meeting of the Royal Med-

ico-Psychological Association, Sargent(26) dealt particularly with the indications for leucotomy, stressing the need for limited incisions in the inferior medial quadrants in order to avoid the personality changes consequent on extensive cuts. If the patient, before his illness, "had a good, conscientious, driving, obsessive and overanxious personality, leucotomy may have a very gratifying and sometimes completely unexpected success." Obsessively held memories, which are the basis of so much chronic neurosis and psychosis, "may sink back into relative insignificance . . . [Leucotomy] is one of the best means we possess for deconditioning abnormal behavior patterns arising from strongly held memories." Sargent cites anxiety hysteria, recurrent depressions, psychosomatic disorders and even well preserved schizophrenics with paranoid, catatonic and pseudoneurotic symptomatology as suitable for operation. With the vicious circle broken, these patients are more amenable to other therapeutic methods and will willingly take ataraxics that they had previously refused.

Freeman(9) reports success in 6 of 7

¹ Sunnyvale, Calif.

adolescents after transorbital lobotomy, all of the patients having shown alarming trends toward fixation. In a larger group of depressed and agitated patients over 65 (10) the results were particularly gratifying, similar findings being reported by Scoville(29) and by Smolik and Nash(31) after incisions limited to the orbital areas. These older patients are more likely to regain effective life than younger ones since they have a half century or more of productive existence behind them.

Schizophrenia. In certain patients, lobotomy is remarkably effective, in others a complete failure. The average is close to 35% discharged. Thus Ambrumov(2) finds it valueless in patients hospitalized 10 years or more, Schulte(28) considers it superfluous except in extraordinary cases. Torres(32) uses it only for better management in the home or ward, and Witton and Ellsworth(34) state: "In comparison with the lobotomized group, the non-lobotomized group showed the same release pattern which was apparently dependent on the rehabilitation efforts more recently adopted in this hospital."

This gloomy picture is offset by Brinegar's(4) report of 68% discharged. Freeman's(12) follow-up of the West Virginia lobotomy project shows 65% discharged after less than 5 years of hospitalization, and 35% in the 5-10 year group. He comments: "The personality changes brought about by lobotomy definitely increase the chances of discharge from the hospital even after confinement there of 2, 5, or even 10 years. These changes consist predominantly of lowered sensitivity and decreased preoccupation with the self. Losses in intelligence, memory and other measurable psychologic abilities are due to the psychosis, not the lobotomy." In another paper Freeman(13) compares prefrontal with transorbital lobotomy showing preference for the latter. Patients with affective disorders or psychoneuroses showed a discharge rate of 90%. Schizophrenics operated on in general hospitals showed 80% at home 10 years later, while those operated on in state hospitals showed only 35% at home. After one year there was little change in the social status of operated patients. Hirose(17) obtained a discharge rate of one third with prefrontal

lobotomy, but, with his own operation, he raised this to one half. He speaks of "psychosurgery as a kind of plastic surgery of mental states rather than a cure for the disease itself."

Psychology. Ackerly(1) has concentrated upon mentally healthy patients whose frontal lobes were unavoidably sacrificed, and probably extensively, in the treatment of tumors and injuries. He emphasizes the decreased complexity of their lives . . . the enforced involvement with the "here and now" . . . the automatic and perseverative aspects of behavior that make it more difficult to shape one's "set" and to engage in novel and planful behavior involving yesterday, today and tomorrow. "Man as man cannot long prevail without frontal lobes, can he prevail with them? This is civilization's greatest challenge."

De Mille(7) compared prefrontal and transorbital patients, 22 of each, closely matched, and concluded that the prefrontal patients scored higher. "Two tests which confounded [?] verbal comprehension and social intelligence factors differentiated the groups significantly." Hamlin and Kinder(16) found vocabulary deficits 10 years after operation (topectomy) in comparison with controls, but conclude that: "familiarity with a test may serve to decrease unpredictable and irrelevant schizophrenic behavior. Unless the idiosyncratic capriciousness of schizophrenic behavior is taken into account, relevant differences may be readily obscured." Nemiah(20) reports on a paraplegic whose pain was unrelieved by cordotomy, studied before and after radiofrequency leukotomy. "The patient could now talk about the meaning of being paralyzed without an overwhelmingly painful affect, and there no longer existed the need for the psychological mechanisms of suppression, denial, displacement and conversion which had protected him from these painful affects, at the same time, resulting in the complaint of pain." If this is devious, how else explain some of the life-saving effects of lobotomy in other intractable psychosomatic conditions as reported by Freeman(11)? Porteus and Diamond(23) state that psychosurgery brings about defects in planning capacity and find the maze test the most reliable indicator.

Incidentals. Crow, Cooper and Phillips (6) insert many thin gold needles into the frontal white matter, leave them for several months while studying the effects of gentle currents applied for 15 minutes to 24 hours. When the most effective spots are found, a strong current is used to produce electrocoagulation. An abbreviated procedure is reported from Ranchi, India (18), where a patient underwent transorbital lobotomy in the morning and played on the winning soccer team in the afternoon, much to the horror of the surgeon.

Studied by pneumoencephalography, the anterior horns and third ventricle cease enlarging in favorable cases at the end of the second year, but continue in the worst cases. Five of the 35 patients had cavities communicating with the anterior horns. The surgical operation starts a complex dynamic process that continues for years and may explain the delay in clinical improvement (22, 25).

Visual and auditory hallucinations may be triggered by frontal lesions (27). The authors describe the uncinate fasciculus. The reviewer believes that interruption of this bundle may be the next advance in psychosurgery, as a means of suppressing hallucinations. This is more than a guess (13).

Interruption of the cingulate fasciculus has resulted in confusion and memory defect similar to the Korsakoff syndrome. Whitty and Lewin (33) state that this might be expected since memory and emotion are indissolubly linked in normal life.

Baker (3) noted improvement after leucotomy in a patient with Gilles de la Tourette syndrome. Cobb (5), in some reminiscences of John Fulton, recalls showing a picture of Becky, the famous lobectomized chimpanzee, with the caption: "Was this the face that lopped a thousand lobes?"

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CHILD PSYCHIATRY ; MENTAL DEFICIENCY

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The diagnosis of childhood psychosis, despite increasingly frequent usage, still lacks suitable definition(1). The proposal of nine "cardinal criteria" for childhood schizophrenia, arising out of discussions among British child psychiatrists(2), represents an important effort to order the field, although the criteria remain somewhat imprecise. The question remains: Is the diagnosis to be made when specified pathology in behavior is detected, whether or not organic signs are in evidence?

The characteristics of the childhood schizophrenic in adolescence have been contrasted with those of (a) adolescent schizophrenics and (b) adolescent behavior disorders in a paper by Colbert and Koegler(3). The authors report more marked poverty of thought; sexual confusion; an obsession with the properties of space, time and movement; and marked distortion of body image—factors that may in part relate to the chronicity of the disorder. The same authors(4) have stressed the significance of abnormalities in vestibular function in a group of children they describe as schizophrenic. Starting from these clinical observations, Scheibel, *et al.*(5), have explored cat brain stem and caudate for regions modulating nystagmus. Manipulation of caudate tissue resulted in phenomena "reminiscent" of postural patterns seen in schizophrenic children. A comprehensive survey of "infantile schizophrenia" has been made by Delage(6) with detailed clinical reports on 20 cases. Cunningham has carefully analyzed the language of a 7-year-old autistic child(7) in comparison with the language of a normal 2½ year old. Among the differences noted were that the autistic child used language less for conveying information, more as mimicry, and had an excessive use of nouns compared to pronouns.

Valerie Cowie investigated the children of psychotic parents(8). She drew her *propositi* from the children of psychotic patients admitted to the Maudsley Hospital

in London and took her control group from the children of mentally normal parents admitted to a general hospital. She found no significant differences between the two groups of children and found, surprisingly, that the children of schizophrenics were remarkably free of neurotic symptoms. How many children seen in Guidance Clinics eventually develop a psychotic illness? From Norway comes a partial answer to this problem(9). From Child Welfare Board material from the years 1929 to 1933, 1863 children were followed up by checking mental hospital records. Sixty-one cases were discovered to be psychotic in hospitals, a rate of about 3%.

Two papers on suicidal attempts in children and adolescents throw some valuable light on the epidemiology of this condition. In 1727 cases under 21 collected in Sweden (10), 1376 were girls and 351 were boys; 83% of these cases came from the low-income group; 87% attempted suicide by the ingestion of drugs. The "reasons" for the attempt at suicide were given as "love problems" in 30% and as "family problems" in 25%. One hundred cases analyzed in this country(11) show a high association of suicidal attempts with family disorganization and delinquency. The authors postulate that both suicidal bids and delinquency are aspects of "acting-out" phenomena. According to Toolan(12), children and adolescents with depressive illness are referred to pediatricians rather than child psychiatrists. He points out that the symptoms of an underlying depression are different from those in the adult and alertness for these symptoms is necessary if suicidal attempts are to be forestalled.

Bowlby has reviewed theories of separation anxiety from William James through Freud, Rank and Melanie Klein(13). He lucidly states his own position as a belief in what he terms "primary anxiety." He feels the child is bound to his mother by a number of instinctual response systems, which have a high survival value. "Primary anxiety" is an elemental experience which, upon reaching a certain intensity, is linked

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directly with the onset of defense mechanisms and should therefore be distinguished sharply from states of anxiety dependent on foresight. Recent reviews of the concept of maternal deprivation(14-16) show that rigor in definition has been lacking; many of the studies suffer from methodological inadequacies; insufficient attention has been given to distinguishing between maternal and "non-maternal" variables (such as amount of environmental stimulation, differential sensitivity, *etc.*). The questions of reversibility and of "critical periods" remain to be answered.

Williams(17) compared a group of 54 children between 5 and 11, who had re-entered a Reception Center after failure in foster placement, with a group of 74 children of the same ages, who had entered because of a sudden family emergency. There were significant differences between the two groups on the WISC subscores and on the Rorschach. These differences are interpreted as indicating damage in personality growth and in interpersonal relationships.

In a 30-year follow-up of 524 patients originally seen at a Child Guidance Clinic in St. Louis(18) it was found that 20% of the cases originally seen met criteria for sociopathic behavior as adults compared with only 2% from a comparable control group. The incidence of divorced parents, failure to supervise the child's behavior, non-support of the family, and sociopathic behavior by the father were all higher in the group that were to become sociopaths.

Precht and Stemmer(19) have investigated 50 children referred for poor school achievement and behavior disturbances at home. In these cases, they observed brief, jerky and arrhythmic muscular movements, most readily seen under stress. In all cases the muscles of the tongue, face, neck and trunk were involved and in 92% the eye muscles were also involved, resulting in disturbances of conjugate movement and fixation. Of the group, 90% had reading difficulties of varying severity. EEG records showed, in addition to movement artefacts, epileptic discharges in 14% of the cases. In all but 22% of the cases some history of obstetrical or post-natal complications was elicited. The authors speculate that the

etiology of this condition is early minimal brain damage, probably to putamen or caudate. If this syndrome can be delineated early in life, it has important implications for remedial education and neuropsychiatric treatment. This work merits careful efforts at replication.

MENTAL DEFICIENCY

The most significant single event of the past year has been the issuance of the report of the President's Panel on Mental Retardation(20). Scholarly in presentation, the report avoids both "crash program" mentality and pious non-specificity. It emphasizes steps to acquire new knowledge while it proposes measures to apply the best in current principles. Recognizing that progress in research is dependent upon scientific manpower, the Panel has called for federal aid to higher education via scholarships for qualified undergraduate as well as graduate students and facilities grants to expand institutional capacity. Stress is placed upon the need for basic research in both the behavioral and the biological sciences. At the same time, the repeatedly demonstrated association between marginal socioeconomic status, poor health care, and neuropsychiatric disorder leads to proposals for (a) the provision of comprehensive maternity and infant care to disadvantaged families; (b) pre-school and after-school programs of cultural enrichment for the slum child; (c) improved hospital, foster care and counseling services to mitigate maternal deprivation; and (d) a Domestic Peace Corps to enlist volunteer community support to rehabilitate and reeducate the marginal families in our society. Space precludes discussion of the many other salient proposals. Suffice it to say that the Panel has issued a distinguished document that can become the basis for mounting an effective attack on mental retardation if it receives widespread public support. In this, we, both as individuals and as APA members, have an important role to play.

Increasing concern has been expressed as to the inadequacy of training in mental deficiency provided in pediatrics, neurology and psychiatry. Now, the various specialties are displaying a distressing tendency to attempt to establish hegemony in this newly

respectable field. None of us has a glorious record of past performance to boast: it is to be hoped that the staking out of claims will give way to a more sober effort to define what it is that each speciality has to offer. The need is surely great enough to absorb for the foreseeable future all of the professional energy any of us is willing to devote. In a survey of psychiatric outpatient clinic service patterns in relation to diagnostic category, Bahn, *et al.* (21), noted the infrequent provision for the retarded of any service beyond diagnosis. Unless the needs of these patients and their families are being adequately met elsewhere in the community (an unlikely assumption), this finding suggests failure of the psychiatric clinic to accept full medical responsibility for defective children.

The study of chromosomal abnormalities continues to yield a rich harvest. New clinic entities have been reported (22-25). In mongolism, an interesting report by Forsmann and Lehmann (26) of 11 families with more than one affected member found only 3 with translocation of 15/21, 21/22, or 21/21 types and hence a hereditary disorder; the other 8 displayed a non-transmitted basic trisomy 21. The same authors (27) have described a family with hereditary mongolism of the 15/21 translocation type in which one son had the chromosomal deficit but was phenotypically normal. Whether or not this child will prove to be fertile, this is the first reported example of a male carrier. Occasional cases of mongolism appear to have the normal complement of 46 chromosomes (28); the interpretation of these findings remains uncertain. Measurements of enzyme activity in mongolism have shown minor abnormalities compared with controls (29, 30); further investigation is required.

After a long period of relative neglect in the English literature, the classic work of Piaget is being re-examined and largely finding confirmation (31-33). Reflecting this trend, Piagetian methods have been applied to the study of the defective (34) and the educationally subnormal (ESN) child (35). Systematic examination of the concept of time in 50 ESN subjects as contrasted with 50 normals reveals a severe retardation of time concept in the ESN, with the ESN of

I.Q. about 65 displaying at age 15 the time understanding of a normal 9 year old.

The training of defectives is being examined experimentally in order to determine what methods of training would most help the subnormal to take a place in the world at large and to find out how subnormals compare with normals in learning abilities (36-39) and in the study of language development (40, 41). This basic research will be necessary before rational methods of training for the subnormal can be defined.

The etiology of mental defect has been considered in Lundstrom's masterly follow-up study of rubella in pregnancy (42). Microcephaly and the group of encephalomyelocoele, myelocoele and meningocele are among its consequences. Apart from the incidence of congenital cataract and deafness, long known as sequelae, subclinical deafness is common and may result in apparent retardation. The high incidence of immaturity, institutionalization and difficulties in school are planned to be the subjects of an independent longitudinal survey. On the basis of a lower overall incidence of congenital defects than others have reported, Lundstrom suggests that the indication for therapeutic abortion following rubella in pregnancy should be less automatic than it has become.

A comparison of 50 male premature babies with 50 male normals (43) has shown superiority of the normals on I.Q., perceptual tasks, developmental tasks and the Lincoln-Oseretsky Scale. The concept of intrauterine growth retardation has been put forward by Warkany, *et al.*, in a paper (44) in which, of 22 cases of prematurity, 15 showed subnormal intelligence often related to a specific mental syndrome, such as microcephaly.

The thalidomide tragedy (45) illustrates the need for the greatest vigilance in giving drugs during pregnancy and thus exposing the fetus to potential hazard, just as earlier misfortunes had warned of special susceptibilities in the neonate (46). Federal legislation, assured passage only because of the ghastly German experience (almost certain defeat had been predicted before the thalidomide news broke), empowers the F.D.A. to require more extensive screening

for toxicity as well as to demand demonstration of efficacy before drugs are released for general use. But, despite all this, major responsibility will rest with us as clinicians. *No drug* should be prescribed without sufficient indication and without weighing expected benefit against potential toxicity; *no new drug* should be preferred to a time-tested older one without convincing evidence of superiority rather than mere equivalence in effect. *Primum non nocere* remains the first precept of the physician (47).

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OCCUPATIONAL PSYCHIATRY¹ALAN A. McLEAN, M.D.²

Since the last review, two monographs and one article have reported the first research findings from the industrial mental health project of the Menninger Foundation. In 1961, the research methodology and frame of reference were established in *Interdisciplinary Research on Work and Mental Health*(25). Part of its introduction says,

We believe that the point of view and the methods we advance in this report will be most useful to those concerned with social and psychological assessment of work activities. For example, the consultant to industry who is asked to assess people to fill particular work roles must necessarily assess the characteristics of both the individuals and their anticipated tasks and situations. We do not propose a viewpoint and method which gives simple answers to these problems, but we do underline factors which we believe need to be considered and some methods which enable the study of social and individual factors simultaneously.

In mid-1962 Solley and Munden(40) reported their five behavioral characteristics which served as an operational concept of mental health in the research, to wit, the mentally healthy person: "1) Treats others as individuals, by identifying himself with, accepting and understanding them. 2) Is flexible under both internal and external stress. 3) Obtains pleasure from many sources. 4) Sees and accepts self-limitations. 5) Uses capacities to fulfill needs in carrying out productive tasks."

Finally, describing their study of "The Midland Utility Co." many new, though properly tentative, hypotheses were proposed which will merit considerable attention in future years(26). The concern is for factors in the industrial environment which both foster and impede employee mental

health. Concepts of reciprocation between an employee and his boss, of the psychological contract between a man and his employer, and of the "balanced distance" which obtains at work are introduced. Dependency needs are discussed and documented in a chapter on "interdependence" which neatly refutes some current industrial sociological thought—particularly propounded by Argyris.

Health and Work Satisfaction. The July 1962, *Journal of Social Issues* was devoted in its entirety to "Work, Health and Satisfaction." A new research program on industrial mental health representing a joint effort of the Survey Research Center and the Research Center for Group Dynamics of the University of Michigan is described. It is essentially a study by behavioral scientists and an epidemiologist—not by psychiatrists. The environmental approach is taken. It is stated that "every environmental stress which we have so far investigated seems to affect mental health; such stresses include low status, management responsibility, technological change, role conflict, role ambiguity, the temporal requirements of shift work, threats to self-esteem in the appraisal system and others."

French and Kahn(9) discuss a number of theoretical considerations, including proposed criteria for mental health. Zander and Quinn(47) discuss affective states, contact with reality, self evaluation, motivation to grow and use abilities, and maintenance of stable interpersonal regulations. Kasl and French(21) present a theory of status and health and report some preliminary studies. The hypothesis is advanced that skill level is inversely related to dispensary visits.

Mann and Williams(28) discuss the results of introducing electronic data processing equipment in an office. They observe "While automation in the office has meant further rationalization of the work environment and the clerical worker has become less satisfied in general with his job and company, this dissatisfaction has not been so intense as to cause these employees to

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be actively searching for other jobs."

Wolfe and Snoek(46) discuss measuring the sources of role conflict. Strong role pressures cause a high level of tension.

It should be noted that the frame of reference of these studies is not one with which psychiatrists in general will be familiar. These studies are illustrative of an increasing trend of "mental health" research by behavioral scientists other than psychiatrists.

Impact of Psychiatry on Management. In March the New York State School of Industrial and Labor Relations of Cornell University sponsored a conference on "The Impact of Psychiatry on American Management." The November issue of *Industrial Medicine and Surgery* was entirely devoted to papers and discussion from this meeting. The conference focused on the question of management's responsibility to provide an environment which will provide growth for the individual employee(16, 29). The focus of the conference was not on treating the emotionally ill person, but on the "self-actualization issue," i.e., that an individual's personal growth and maturation depend on ultimate realization of individual potentials.

Highlighted in these papers were a number of additional themes: 1) Psychiatrists are entering the industrial, commercial and civil service scene because it is felt that they have something to offer the individual and the organization, since 10%-20% of the work force at any given time have clinical behavioral problems of varying severity (27). 2) In such settings, the psychiatrist has his traditional role as a clinician but a more important function is the education of others in industry who deal with people (27). 3) Practical problems arise from the varying points of view represented by behavioral science on the one hand, and administrative practices on the other(39). The possibility of integrating the viewpoints of these two groups is discussed. Improvement in communication is stressed (2). 4) The current trends in the application of psychiatry to personnel policy formulation are reported. Findings from psychiatry and behavioral sciences which have contributed to an understanding of work, group behavior, patterns of relationships

to authority and motivation theory are discussed as they relate to personnel and management policies in the past and in the future(2, 16, 27, 30, 39). It was predicted that managers of the future will have broad training in the fundamentals of human behavior and will better understand the needs of the organization and the realities of their role(30).

Accidents. Engineering revision has made jobs safer so that 70,000 lives have been saved in the past 20 years. Much less has been done about the strictly human factors, and it is worthwhile investigating these because accidents still remain the second most important cause of lost working years, and the cost of this is enormous(15). Twenty percent of accidents since 1950 have been occupational(19).

Further progress is hindered by the fact that such a multiplicity of factors may contribute to accidents. A framework for considering these is suggested by Bize(1) who applies communication theory to accidents. He places emphasis on warning messages received by the injured person prior to the accident, interpretation of the messages both by the person himself and others surrounding him, external human pressures at the time, and the immediate and underlying motivations of both parties. Some prognostic signs are suggested by Hannaford(13), such as an increase in work errors, close calls, changes in behavior. The detail which must be emphasized in the study of accidents may preclude a gross statistical approach(37). For example, a statistical approach might overlook a case in which an intrapsychic conflict is pathologically solved by an accident. This type of possibility has not been exhausted, as was demonstrated in a study of patient accidents in hospital(44) where the accident-prone hypothesis applied to 9.7% of patients who had 23.3% of the accidents.

Absenteeism. A study of prolonged absenteeism(34) in 130 persons indicated that the long absences were primarily due to mental illness in 61%. Very few of these were psychotic. Many of the remaining 39% in the physical disease category might not have been absent, were they not also inadequate personalities. After interviews in the medical department, 30% returned to work

within one week, and 50% within ten days. The effectiveness of this technique was substantiated in another study(32). There was an undue preponderance of females in the absentee group.

It is obvious that the woman requires special health services. Her circumstance is also different in that her home job affects her job at work, and she is also more accepting of absences for minor illness than men (45).

Fallacies of statistics on sickness absence in industry and a method for comparing age-specific rates for populations with varying age distributions is made clear by de-Groot(4).

Automation was the concern of some. Gerstle(11) reports that automation is a generator of anxiety to which most people can adapt. There is fear of the unknown in the machine and reduction in actual laboring makes some feel inferior. Help the physician can give in this area is emphasized. Emery and Marek(6) report a case study of employees transferred from an old to a newly built power plant in Britain. The technological changes were discussed. The supervisor's role became one of broader control of the overall processes rather than hour to hour supervision. He was thus seen as less of an inspector and disciplinarian and more as the possessor of higher technical knowledge. The differences in responsibility and authority were also less than prior to change.

"Automation and Mental Health" was the topic of a well attended open committee meeting of the Committee on Occupational Psychiatry of the APA in Toronto in May. Discussion by Goldstein and Hulsart described experiences encountered in successfully meeting the problems created by automating processes at the *New York Times*. Their papers will be subsequently published.

Occupational Psychiatric Practice. The resistance in industry to the development of psychiatric programs continues in spite of superficial acceptance. Progress is hampered by the fact that the psychiatrist has few channels for communicating with the appropriate people, who in turn have no frame of reference for understanding what psychiatry can do(31). Likewise, the psychiatrist needs a frame of reference for un-

derstanding whether the company's interest will be largely a matter of improving progress and productivity as in large technical companies, or in improving the personal atmosphere as in older tradition-oriented family type companies. Executives are largely unaware of how they can use a psychiatrist as a consultant in management problems, quite apart from his more traditional role as a clinician. This broad role is in keeping with the modern objective of securing and maintaining health and productivity, now that specific occupational diseases are under better control. The concern now can be with early precursors of disease, not early signs. This requires a broad epidemiological analysis in keeping with the concept that non-specific stress diseases have multiple and non-specific etiologies. An example of a comprehensive approach is contained in the following: "That the total assets which the executive brings to his job must equal or exceed the total demands of his job, and that failure to achieve this relationship can result in stress disease"(20). The need for such an approach is in part due to a change in the man-job relationship, in which now there is less direct contact with processes and more psychophysiological stress(14). It is now obvious that attention to the whole man is required and involves a multiplicity of thoughtful alterations in the ways in which employees have traditionally been treated. The benefits to be reaped by such an approach are more prolonged employment and production continuity, and a lessening of the hostility which underlies suits for liability(7). Thus, a human approach to the patient also protects the company. With increasing competition, automation, and increased costs, maintaining the margin of profit depends upon better utilization of manpower, and this requires a better understanding of man in his environment. Serious problems in communication between psychiatry and management must be solved before further steps will be made. Probably neither group is sufficiently aware of its "implicit conceptual world" and its "criteria of credibility"(8).

It is further clear that full-time psychiatrists are most desirable, because only in prolonged daily contact can an intimate

understanding of problems of plant management and the labor force be obtained. Prevention can be furthered by education of the supervisory force towards handling people better and knowing when to make referrals to the medical department, by means of informal discussion groups led by the plant psychiatrist(12). One source of strain in the work environment has been nicely researched by Read(35). This involves the deletion from the communication of subordinates to superiors of information about difficulties they have encountered in their tasks. This occurs where the aspirations of subordinates are particularly strong, and is conditioned by his trust in his superior and his perception of his superior's degree of influence. This leaves the superior in a poor position to judge subordinates' ability to handle problems and insulates the subordinate from sharing the experience of the superior.

Awareness of the social and cultural milieu of employees is essential in view of the fact that the incidence of mental illness is highest the world over in areas of rapid acculturation and because ideas of health education are communicated to deaf ears when there is a disparity of ways of thinking about health between health personnel and employees(33).

There is mounting interest in rehabilitation, and cost considerations are made to seem minimal in view of the cost of compensation award(23). Criteria are being sought out for evaluating employability after psychiatric illness(18), and solutions to difficulties incurred through hiring workers with emotional problems are being worked out(17). The prognosis in terms of work disability for various diagnostic categories has been specified by Gayral and Stern(10).

The Committee on Mental Health in Industry of the AMA issued a *Guide for Evaluating Employability after Psychiatric Illness*(18). Single copies are available from the Department of Occupational Health of the AMA.

One brief monograph by Spriegel and Mumma described a survey to determine the extent and concerns of industrial mental health programs(41). The main findings follow: the reported effects of poor mental

health included, in order of indicated importance, sudden changes in attitudes and actions, excessive use of alcohol, excessive absenteeism, antagonistic attitudes, and accident proneness; mental health programs resulted in reduction in absenteeism, labor turnover, accidents, and grievances and in higher morale, including increased satisfaction of the individual worker.

Executive development programs were examined and psychological shortcomings are pointed out in Levinson's paper(24) and learning and emotional growth were said to be facilitated by the process of identification. But management training is usually assigned to staff personnel who cannot be adequate identification figures. To overcome this, management supplements training with coaching within the line organization. Reasons why this has not solved the problem are given and corrective steps are suggested.

Illness in Occupational Groups. Using the Cornell Medical Index, Valdiva and Caraveda(42) have found that a preponderance of union leaders over managers show abnormally high scores with respect to psychiatric symptoms. It should be noted, though, that the scoring of the Index may be made incorrect by the fact that some of the questions are judged normal on the basis of one's cultural criteria of normality (3).

Dunn and Cobb(5) report that the incidence of peptic ulcer is higher among foremen than executives or craftsmen.

Involuntary reactions occur with greater than usual frequency following occupational injuries in the middle-aged. They appear to be related to the loss of self-importance more than the loss of funds. Compensation has no palliative effect and may help crystallize the condition. Although complaints may lessen while attention is received from lawyers and compensation boards, there is no real improvement, and if the patient's pathological state is questioned the condition worsens.

Kornhauser(22) seeks sound evidence to answer the question "Does job strain contribute to mental illness?" Markedly poorer health was found in less skilled workers, and this could not be related to educational level or other factors which were looked at.

Tentatively it can be concluded that the job itself has a potent influence on mental health.

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SOCIAL PSYCHIATRY

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A discernible trend in the literature during the past year has been the increasingly important concern with planning activities. There are no doubt many factors contrib-

uting to this. Among them we would mention a growing conviction that no major research break-through in specific preventive or curative activity looms large before the horizon, and that knowledge already

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gained has not been consolidated and utilized in the most effective manner in possible prevention and treatment programs. Also in an era of rising costs for medical care services generally, there is a natural desire to maximize efficiency of administrative and organizational machinery. Thus there are signs of major efforts by many workers in psychiatry and related disciplines to break through administrative and other social barriers to the optimal use of what we have. Ruesch(79) points up this problem from the standpoint of medical education. He states that the "care of the patient" as the primary aim of medicine became submerged as a result of the somewhat disorganizing effect of increasing support for the medical sciences (as opposed to clinical medicine). This effect may be mitigated now by increasing support also for clinical medicine and education of physicians. Furthermore, it has become abundantly evident that the *kind* of further knowledge we *need* can best (or perhaps solely) be achieved from careful attention in design of research, programs and facilities to social factors and the hard facts of community life. Thus, *research* to get at "hard" epidemiological data will probably increasingly necessitate *new* kinds of *clinical* facilities to permit gathering of such data; and also *teaching* will have to relate to the interaction of the two. One logical development would clearly be closer connections between academic and teaching centers on the one hand, and community facilities and institutions such as state mental hospitals, on the other. Another factor is the report of the Joint Commission, which continues to stir lively commentary and criticism(8, 25, 72, 90).

An account of changes of emphasis in mental health work in various nations, based on WHO statistics, from 1948 to 1960 is given by Krapf and Moser(46). Brady's review(13) of publication trends in American psychiatry from 1844 to 1960 also helps to provide some perspective on the current output. Certainly to be borne in mind is that the current increased interest and emphasis on the family and the community does not reflect a totally new perspective but in large measure represents a return to former conceptions, and thus in part is

a phase in historic cycles. Many would agree with Opler(69) that important next steps in psychiatric development will be along organizational levels.

Pertinent to this are the methods for financing care, as an important consideration in determining the social setting in which psychiatric service exists. The economics of psychiatric care is obviously linked with any further developments in the field. The summary report of the Group Health Insurance research project on financing short-term ambulatory treatment indicates that such care is feasible under a prepaid health insurance plan(5). Another publication gives a comprehensive study of insurance coverage in the U. S. for mental illness(42).

Preventive Psychiatry and Public Health. Querido(76) emphasizes that the development of modern medicine renders it imperative to bring preventive and curative activities together and recognize mental health care as an aspect of general health care. An estimate of our currently available tools for modifying the amount of mental disorder produced in a population is provided in the form of a "guide"(1). This volume is a veritable primer in the field and should become a classic in social psychiatry. The chapter on prevention and treatment of the "social breakdown syndrome" is a particularly useful statement of the problem. Together with the separately published subcommittee report(2) this guide helps provide a frame of reference for all workers in program planning, evaluation, and research, and represents the kind of consolidation needed which we referred to above. Caplan(17) also gives an overview of the prospects for preventive psychiatry in the community. Especially when concerned with the problems of chronic illness, the principle of continuity of care emerges as a preventive philosophy(58).

Basic to any attempt at prevention is research in *epidemiology*. And the backbone of any epidemiological endeavor is the case identification procedure. The problem of case identification in psychiatry is discussed by Blum(11), who suggests needed research in this area. One underpinning of the whole field of epidemiologic investigations is the accuracy of definitions and

descriptions of cases and of "normals" or the "healthy." Several studies approach the problem by attempting to describe the characteristics of a group of persons labelled as "healthy" (34, 37, 88). The reliability of psychiatric diagnoses is critically examined in other reports (9, 10, 98). Kantor and Jackson (45) point out that schizophrenia is undergoing a gradual redefining process, and discuss the lines of research nurtured by social scientists. Murphy, *et al.* (64), studied a series of young women at full term pregnancy in terms of the amount of psychiatric disorder in such a population and its relationship to stress and other illness. The "personal problems" reported by neurotics, schizophrenics, and normals are compared by Folkard (30). Finney (29) proposes criteria for cases of mental illness based on a servomechanism model. It is apparent that the use of computers in epidemiologic research in social psychiatry has become standard.

More studies have addressed themselves to the relationship of season of birth and mental illness (66) and intelligence (70). Wiener (96) critically reviews the literature on premature births in relation to psychosocial correlates and Collman, *et al.* (20), report the results of a 15-year survey of the variation in incidence of mongoloid births with time, place, and maternal age. Pasamanick presents an approach to total prevalence in a survey of mental disease in an urban population (73-75). Malzberg (52) continues to publish data on distribution of disease by treatment statistics. The Cumming and Henry study (21) of the process of aging has implications for epidemiological research in its identification of factors in a longitudinally studied population. A study of the prevalence of psychiatric disorder in metropolitan old age and nursing homes is reported by Goldfarb (36). The results of a study made to determine what changes occur when low income families are moved from slums to a better housing environment have been published by Wilner, *et al.* (97). Bowlby (12) summarizes and discusses the evidence for childhood mourning as an etiological agent in mental illness.

The most significant research publication during the past year is the first volume of

the Midtown Manhattan report by Srole, *et al.* (89). A model of conceptual elegance and intellectual honesty is provided in this pioneering endeavor. This book stands as a beacon to all future researchers in the epidemiology of mental disorder.

A number of *follow-up studies* over varying lengths of time continue to appear and enrich our understanding of the life history of disorders and the role of social forces in outcome (3, 26, 40, 78, 91, 100).

The studies of Bahn, *et al.* (6, 7), illustrate the life table method of analysis on standardized clinic data and the use of such data for evaluation of treatment of various diagnostic groups and identification of those patients most likely to be helped by clinic treatment. Evidence of assumption by clinics of increasing responsibility for the psychotic patient was observed, reflecting the development of comprehensive community mental health programs. Brill (14) describes the population changes in New York State mental hospitals since the introduction of the psychotropic drugs.

The crux of epidemiological research, the measurement of incidence, remains the knotty problem it has always been in mental disorder. The answer to the question of who are the susceptibles in a population, and the problem of casefinding methods would seem to be strongly related to the community emphasis needed, which was referred to earlier. Useful bibliographies in epidemiology are given in the report of the Milbank Conference (57) which unites in a volume papers separately published earlier, and the review from Harvard (39).

Institutions. Research in the social structure, communications, and role functions of patients and staff within psychiatric hospitals continues to be reported (22, 81). Rapaport (77) brings to bear the perspectives of a social anthropologist on Maxwell Jones' therapeutic community. Artiss (4) reports on a therapeutic community of acutely psychotic schizophrenics. Fleck describes a treatment program in which the impact of the entire hospital environment is utilized to modify the behavior of young schizophrenics and their families (28). Goffman's essays (35) on the "total institution" are an original approach to the social situation of mental patients. Wing (99) also discusses

the phenomenon of institutionalism in mental hospitals. Gruenberg, *et al.*(38), report further on the attempt to evaluate administrative changes within a hospital by the appraisal of deterioration in a group of long-stay patients.

A discussion of the implications for American services of the English open mental hospitals appears in Milbank Memorial Fund publications(55, 59). The removal of barriers between the hospital and the community must take place from both directions, and the point is made that it will be necessary to examine and change legal and administrative machinery of hospital systems as well as working within current legislative frameworks. Two other articles discuss and summarize recent mental health legislation affecting patient care(71, 82). An example of an advanced community-oriented program of service and research interwoven in the functioning of an institution is given in the model by Lewis and Kraft(50).

Cross-Cultural Studies. Lambo(47) describes a syndrome ("malignant anxiety") which may be related to specific social stresses and therefore only known in specific places at specific times. Another valuable illustration of the value of the cross-cultural approach is Weinstein's book of Virgin Islanders(95) on cultural aspects of delusion. Sanua(85) reviews the literature on socio-cultural factors in families of schizophrenics, and a cultural influence is demonstrated in differential reactions by persons from different cultures to sensory deprivation.(86). From the methodological viewpoint, Chance(18) questions the cross-cultural applicability of survey questionnaires.

The Family. The past year witnessed the welcome appearance of a new journal devoted to the family. (*Family Process*, published jointly by the Mental Health Research Institute of the Palo Alto Medical Research Foundation and the Family Institute of New York.)

A number of studies illuminate the importance of the family in relationship to mental patients(16, 23, 28, 31, 32, 48, 53, 56, 68, 84) and the need for a family orientation in planning for patients.

Public Attitudes, Social Values, Social

Class. Nunnally(67) documents the popular conceptions of mental health. Another study which explored the orientation of leaders in an urban area towards problems of mental illness showed variation with an individual's order of leadership activity. Least congruent with psychiatric views are the orientations of economic leaders in the community (who are high in their influence) and religious leaders (who are most frequently called upon for help)(24). Mechanic(54) explored factors of perception of mental illness in a person by others. Lemkau, *et al.*(49), in a survey of opinions and knowledge about mental illness in an urban population produce interesting findings at variance with former reports by others, and these findings indicate that people are less ignorant about mental health matters than has been popularly supposed.

Jones(43) stresses the need for psychiatrists to clarify their thinking on the moral issues involved in sociopathy and to advocate strongly treatment of these disorders.

The importance of the different social values existing in different social classes is amply documented. Gans(33) provides a comprehensive study of an American working class group. Miller and Riessman(60, 61) critically re-examine the subculture of the working class and some commonly held stereotypes and explanations of working class culture among middle class psychiatrists and social scientists. Suggested approaches to the problems of social class-related differences in the educational system are given by Riessman(80). Others document social class factors related to personality development and disturbances of function (51, 83). Further publications corroborate the social class factors in the actual practice of psychiatry(15, 19, 41, 44, 92) and point out the fact that the lower class patient is less likely to seek treatment, and less likely to be accepted for treatment or to participate in treatment if accepted—but also that the lower class patient who is treated does as well as a similarly treated middle class patient. A relationship between obesity, social class, and mental illness is documented in another paper(62).

Medical Sociology and Social Theory. A good current guide to the literature and

general introduction to social psychiatry within the framework of social medicine and medical sociology is the volume by Susser and Watson (93). The role concept as a bridge between psychiatry and sociology is suggested by Moreno (63). Szasz (94) attempts to explain phenomena of mental illness in terms of social processes, and Smelser (87) gives a theoretical approach to unify the subject of collective behavior.

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CLINICAL NEUROLOGY

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Cerebro-Vascular Disease. Severe atherosclerosis is apt to be widespread. At autopsy,

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patients with myocardial infarcts have more severe carotid atherosclerosis than other patients (59). When the entire vascular tree

from aorta to brain is examined in patients with cerebral infarcts, half have occlusion or significant narrowing intracranially, but 90% have serious obstruction of the internal carotid vertebral or subclavian arteries where early surgery might be effective(97). Such surgery, whether for stenosis or buckling of the carotid, must be considered preventive of further infarcts rather than curative, even when good backflow results(24, 34, 74).

Premonitory symptoms were elicited in one-sixth of patients with suspected cerebral embolism, but thrombosis was not excluded(94). Sudden or transient neurological symptoms in cancer patients are apt to be due to aseptic emboli from marantic endocarditis(4).

The frequency of carotid bruits in 1000 normal people varied from 85% before age 5 to 12% in those over 50(33). Allan and Mustain(2) have analyzed the production of bruits. They may have multiple causes. They are aggravated by exercise, fever, anemia, thyrotoxicosis, and carotid bruits may increase during a migraine attack. They cease when the vessel is narrowed to 1 to 2 millimeters. The systolic bruit of carotid stenosis is sharply localized, abolished by proximal compression and made louder or continuous by compression of the opposite carotid if that is not occluded. Increased flow in the opposite normal carotid may result in a bruit there. Vertebrobasilar stenosis may cause a murmur over one or both carotid or orbital regions. The high intensity, continuous murmur of a cavernous sinus fistula is loudest over the orbit, but is conducted widely in bone and is not obliterated by compression of one carotid. When present, the bruit of A-V malformations resembles that of fistulas but may be reduced particularly in the diastolic phase by compression of the jugular vein.

In a controlled study, the parenteral use of a hypotensive agent titrated by half hourly blood pressures was of definite benefit for intracerebral hemorrhage, but not for subarachnoid hemorrhage alone(56).

In a double-blind study of fundus photographs of hypertensive patients, treatment decreased the hemorrhages and exudates, local areas of arteriolar constriction sometimes relaxed, collaterals developed and

partially obstructed arterioles might recanalize(43). Hypoxia is suggested as the cause of retinal venous distention often segmental with internal carotid artery occlusion(36).

The sedimentation rate should be checked if there is sudden loss of vision, ocular vascular occlusion or unexplained ophthalmoplegia in patients 54 to 84 years old. If it is elevated, a temporal artery biopsy may confirm an occult temporal arteritis which should be treated with steroids(82).

In a controlled study of 121 patients, Hill and Marshall(37) found that the small but definite risk of intracranial hemorrhage among the half on anticoagulants was not counterbalanced by any adequate protection against thrombosis.

McKissock, *et al.*(54), report the first comparison of patients with ruptured middle cerebral artery aneurysms fully studied and considered operable then randomly assigned to surgical or conservative treatment. Only in the men was survival significantly ($p=0.05$) better after surgery. Perhaps the poor result in women is because their aneurysms are smaller and more sessile(19).

The specific benefits of physiotherapy and speech therapy are beginning to be critically appraised in terms of spontaneous recovery. Twelve children, aphasic because of vascular lesions, age 3 to 15, whose parents were specifically told to avoid trying to teach them to speak, all regained speech spontaneously, and four spoke normally. Prognosis was best when a child could pick out a named object soon after loss of speech(15). Retrospective comparison was made of 74 untreated children with cerebral palsy and a generally similar group who had at least once weekly treatment for 5 years. For mild hemiparesis, the results were similar, except that the treated group had a better quality of gait and fewer contractures. The same was true for tetraparesis, but here the eventual orthopedic surgery was the same for both groups. For the extrapyramidal type, gait and hand function were comparable though poor in both(63). In adults, in a controlled study of 80 patients with hemiparesis due to cerebrovascular accidents, functionally oriented medical care resulted in slightly, but not significantly, better muscle function and

mental state than formal rehabilitation. Adequacy in activities of daily living was slightly better in the rehabilitation group when initial impairment was mild to moderate. Only one patient, a member of the non-rehabilitation group, returned to work. The vast majority of hemiparetic patients recover satisfactorily on medical wards if proper attention is given to ambulation and self care(26).

Bickerstaff(9) describes a basilar artery occipital migraine in adolescent girls with family and past history of migraine who have teichopsia and visual impairment of both fields, dysarthria, vertigo, tinnitus, unsteady gait, acral paraesthesias and in one or more attacks gradually lose consciousness to the level of stupor.

UML 491 (1-methyl D-lysergic acid butanolamide) seems to reduce attacks of migraine by preventing the initial vasoconstriction(20, 31).

The delayed neurological deterioration after anoxia may perhaps be lessened if the patients are kept inactive for two weeks (70).

Infection. Based on 658 cases of acute bacterial meningitis, Quaade and Kristensen(71) recommended that meningococcus be treated with penicillin and a sulfonamide; hemiphilus, with streptomycin and a sulfonamide; pneumococcus, with penicillin and a sulfonamide; and undiagnosed bacteria, with penicillin, streptomycin and a sulfonamide. Early use of steroids may prevent membrane formation.

In animals, a type III pneumococcus bacteremia resulted in meningitis only when the meninges were punctured(67).

Toxoplasmosis may be divided into four phases: acute, during generalized infection; subacute, when there is prolonged infection in areas of decreased immunity (eye and brain); chronic, when there is hypersensitivity and tissue necrosis results from rupture of cysts; and burnt out, without infection but with scarring from previous infection. Treatment of the infection with sulfadiazine and pyrimethamine, like that of tuberculosis, depends upon an unusable vitamin to block biosynthesis, and toxicity can be relieved with leucovorin (folinic acid). In the chronic phase, corticoids are a useful adjuvant(28).

Contrary to expectations, Laird(44) finds a marked reduction in the incidence of general paresis over the last decade. A current review of syphilis by Beerman, *et al.* (10), recommends the VDRL Slide Flocculation test as a survey test. If this is positive, a Reiter Complement Fixation test should be done. If that is non-reactive, a Treponema Pallidum Immobilization (TPI) test should be done to distinguish a present or past syphilitic infection (positive TPI) from a Biologically False Positive (negative TPI). Present recommended therapy is 6 to 10 million units of penicillin, or 4 million units of bicillin.

Oral immunization against poliomyelitis is becoming more successful, but there are still problems. Most important has been the occurrence of 16 cases of polio in non-epidemic areas within 30 days of vaccination, hence possibly due to the inoculation(89). Two followed type I virus. One of type II virus occurred in a patient given only type III virus. Thirteen followed type III virus inoculation. All but three were in patients over 30 years old. There have been no deaths, but symptoms were sometimes severe. In some communities during the season of high incidence of other enteroviruses, these interfered with the take from oral polio vaccine(65). In other circumstances, oral polio virus caused disappearance of wild strains of polio, but other enteroviruses continued as intensive as before(23). In Algiers, a polyvalent vaccine against diphtheria, tetanus, typhoid, paratyphoid and polio gave good protection against polio, but interfered so much with other vaccines that such combinations are not recommended(7).

Neoplasm. Of 450 intracranial tumors, 34 were unexpectedly found at autopsy though 22 had caused symptoms. McLaurin and Helmer(55) make the following points: CSF pressure is not apt to rise with strokes. Only 12% of stroke patients have focal seizures compared with 50% with tumors. Meningiomas may cause intermittent symptoms and brain tumors can have a catatrophic onset. They found air studies 90% reliable; arteriograms, 80% to 90% reliable.

Calcification is more frequent in less malignant tumors, but chemically and physically is the same as pseudocalcium pre-

capitates found elsewhere in the nervous system and not related to tumor type or age(78).

Suprasellar tumors, such as craniopharyngioma, by damaging the hypothalamic source of vasopressin are more apt to cause diabetes insipidus than tumors of the posterior pituitary and may also simulate tumors of the anterior pituitary by interfering with its hypothalamic hormonal control via the portal veins(72). Sherwin, *et al.* (80), describe several cases of small hamartomas of the posterolateral hypothalamus causing multiple endocrine abnormalities.

There is an 8% risk of radiation myelopathy in treatment of nearby tumors if more than 10 cm. of cord are exposed to 3,300 rads in 42 days or less than 10 cm. of cord to 4,300 rads. The small penumbra of a super-voltage machine is safer(64). Acute radiation injury of the brain, as seen by the electron microscope, consists of clumping of chromatin, shrinkage of the nuclear membrane and blebbing of the nucleus, but the axons and myelin are unaffected. Glial swelling is limited to the astrocyte feet(69).

Multiple Sclerosis. In experimental allergic encephalomyelitis, several days before clinical symptoms appear, there is perivenous infiltration with mononuclear cells. These invade the parenchyma and seem to destroy the myelin in contrast to all other diseases where myelin breakdown occurs before mononuclear invasion. Plasma cell invasion follows as a secondary response(91).

Epilepsy, frequently focal, may occur as an initial symptom or as an integral part of a relapse of multiple sclerosis, but chronic, recurrent fits without such obvious relationship are probably coincidental and may be due to a brain tumor(50).

Forty consecutive multiple sclerosis patients with new symptoms within 14 days and without improvement were divided into two matched groups. The group treated with ACTH improved significantly more clinically ($p = 0.05$) than the control group given saline(57).

The final report of 30 patients treated with two intrathecal injections of tuberculin PPD compared with 30 given saline indicates no effect on the course of the

attack, and the occurrence of more exacerbations during the next 3 years. The immediate reaction was always uncomfortable and sometimes alarming with urinary retention, 6 cases of meningitis and 2 patients comatose(58).

Basal Ganglia Diseases. The most incisive analysis of current knowledge about the basal ganglia is Dr. Denny-Brown's monograph(21).

Smith(85), correlating clinical with post-mortem location of stereotactic lesions aimed in 11 instances at the globus pallidus and in 4 at the thalamus, found improvement only in severe lesions affecting variously the globus pallidus, ansa lenticularis, *systeme en peigne* of the internal capsule, the fields of Forel or the lateral ventral nucleus of the thalamus.

Onuaguluchi(62) has carefully described the crises of 20 post-encephalitic parkinson patients. Prodromally, there is slowness, less activity, quarrelsomeness, depression, an unpleasant aura and injection of the conjunctivae. The eyes usually turn up or up and laterally, rarely downward. Lateral movements are usually away from the side of greater rigidity. Unless there is photophobia, the eyes stare. In some, there is upward nystagmus and flickering of the lids before the eyes become fixed. Voluntary lateral movements are momentary or impossible. The pupils are usually dilated and the face flushed. Rigidity, tremor, salivation, pulse and blood pressure increase. Headache is usually frontal. One-third have vertigo. In a few, respirations become irregular and the most severe grunt, moan or give a "seagull cry." Eight patients had sweating crises with flushing and fever, not necessarily related to the oculogyric crises and usually coming late at night.

Martin and Hurwitz(48) find that post-encephalitic parkinson patients have difficulty walking because of loss of the postural controls to shift their center of balance forward and sideways. They can walk if these shifts are supplied. With Finlayson(49) they describe the disorders of postural fixation, equilibrium and righting, locomotion, phonation and articulation and akinesia of these patients.

Compared with a control group, the cognitive functions of 45 ambulatory park-

inson patients seemed to be impaired only as an effect of medication(87).

Electromyographically, the blink reflex is composed of a proprioceptive and a nociceptive component. In parkinsonism, normal adaptation of the second component does not occur(75).

Although the 1 to 3.5 per second component of intention tremor is probably neuromuscular, Brumlik(12) finds that the normal "tremor" at rest has the amplitude, frequency and wave form of a lateral ballistocardiograph, and it persists after complete neuromuscular block. Hofman(38, 39) feels that the muscle spindle apparatus plays a significant role in parkinson tremor and that rigidity is due to a defective bias of these sensors. Shimazu, *et al.*(81), as a result of EMG studies, think pallidectomy lessens rigidity by damping the gamma motor system.

The high concentration of 5-hydroxytryptamine in the areas of the brain damaged in parkinsonism and the occurrence of parkinsonian symptoms after drugs which release 5-hydroxytryptamine (reserpine) or clinically antagonize serotonin (phenothiazines) have led to speculation about a biochemical basis for parkinsonism. Barbeau(6) found a decrease of 5-hydroxyindolacetic acid excretion in the urine of parkinson patients and a transient increase of parkinsonian symptoms after giving Dopa. However, Resnick, *et al.*(73), found no difference in urinary excretion of indoles in parkinson patients or patients with other neurologic diseases in the baseline period or after 1.3 mg./kilo of 5-hydroxytryptophan daily and no change in symptoms. Present methods proved too insensitive to measure 5-hydroxyindole compounds in the CSF. They conclude a biochemical lesion, though not excluded, is unlikely.

Bittenbender and Quadfasel(11) describe a rigid variant of Huntington's chorea with an early onset. The rigidity may appear at any stage of the disease, but usually appears first proximally and often blocks out static and intention tremor and chorea.

Metabolic Disorders. Severe liver disease, other than Wilson's disease, can cause low ceruloplasmin levels in children or adults

(93). Radioactive Cu^{64} studies indicate that the basic defect in Wilson's disease may be an inability of the liver to conjugate copper to apoceruloplasmin rather than a lack of ceruloplasmin(52). By electronmicroscopy, copper is seen to be deposited in liver cells in the cytoplasmic lysosomes increasing their density. Histochemically, acid phosphatase activity is reduced in hepatic cells, particularly those with glycogen degeneration of their nuclei and cytoplasmic fat droplets and lipofuscin pigment(77). Half of the patients present with hepatic and half with neurologic symptoms, one had a metabolic bone disease(92). D1-penicillamine is reported to be more satisfactory than BAL in treatment(30), despite its slight nephrotoxicity(61). Copper clearance is thought to be the best indication of response to penicillamine(94).

Hepatic encephalopathy is probably not due to ammonia intoxication alone. In a double-blind study of the psychological functioning of cirrhotic patients, changes did not correlate with elevation of arterial blood ammonia by infusion, and it appeared that several factors may be interacting over a period of time(18). McDermott *et al.*(53), find that 18% of surgical shunt patients develop mild, intermittent encephalopathy and 6%, chronic encephalopathy. Surgical by-passing of the colon in 3 of the latter patients resulted in improvement of even severe intellectual impairment, choreoathetosis and ataxia.

Sanders(76) has reviewed the neurological complication of myxedema. Coma with convulsions and subnormal temperature occurs mostly in the winter. Treatment consists of thyroid, artificial respiration and possibly warming and steroids. Patients with myxedema psychosis may be suicidal. Paresthesias and myalgia occurred in 79 of 80 patients, and ataxia in 8 of 9 patients. Both the vestibular and acoustic division of the eighth nerve are affected in 15% to 30% of patients. The chronic, diffuse headache is helped by thyroid, but not by aspirin. Dysarthria, hoarseness and prolonged deep reflexes are due to myxedema of the muscle. The CSF protein is often increased to over 100 mg. percent. Astrom, *et al.*(5), found primary changes of skeletal muscle in biopsies. Havard(35) suggests that weakness in

thyrotoxicosis also is due to myopathy, not aesthenia.

Among 490 diabetics, Fry, *et al.*(29), found neuropathy in 66. Symmetrical peripheral neuropathy developed acutely in 4 uncontrolled diabetics who recovered rapidly when treated. Insidiously developing polyneuropathy, mononeuropathy (including ocular and facial) and asymmetrical, proximal amyotrophy occur about one-fifth of the time in diabetics while under good control. Some of each type improved. Compared with normal controls, motor nerve conduction time is impaired in ulnar median and peroneal nerves of symptomatic and asymptomatic diabetics independent of age (45).

The blood brain barrier was abnormal in 18 of 19 patients with uremia. Muscular twitching was correlated only with the rising of the CSF phosphorus level above 3.9 mg. percent(27).

Vegans, strict vegetarians with practically no vitamin B₁₂ intake, are comparatively free of clinical signs, but have diffusely abnormal EEG's(83).

Spinal Disease. A Horner's sign and pain give a bad prognosis in traumatic intradural avulsion of the brachial plexus. The use of intradermal histamine to produce a flare and so indicate an intact peripheral axon reflex is helpful diagnostically(88). Using it and myelography, surgical exploration can be avoided.

Gurdjian, *et al.*(32), tabulate the result of 1176 operations for protruded lumbar disc as: 21%, excellent; 42%, good; 12%, fair; 4%, poor; 21%, lost. They advise against operation if the myelogram is negative.

Phenylmyelography for relief of pain helped 66 cancer patients, but not 20 patients with neuralgia and pain of other causes. At autopsy, changes were not limited to C fibers(47).

Muscle Diseases. Evidence is accumulating that myasthenia gravis is an autoimmune disease. In 1960 by immunofluorescent (IF) methods, Strauss, *et al.*(86), demonstrated in myasthenic, but not in normal sera, a complement fixing globulin fraction which would bind with skeletal muscle. Beutner, *et al.*(8), directly, using labelled patient's globulin, and indirectly, using labelled anti-human gamma globulin

serum, demonstrated the IF reaction with skeletal and cardiac muscle. In a "complement staining" reaction, using labelled antiserum against guinea pig globulin to stain fixed guinea pig complement, they obtained a reaction from skeletal muscle only so that there are two antigen-antibody systems, S (skeletal), and SH (skeletal-heart). Using the S system, they have fixed antibody using the patient's own muscle, proving that this is an auto-antibody reaction. Moreover, the thymus in myasthenia histologically resembles a lymph node draining an area where a homograft is being rejected (13) and an autoimmune response can be demonstrated in its germinal centers(96). This mechanism makes understandable the lymphorrhages in the muscles and the transient myasthenia of infants born of myasthenic mothers. (The process of auto-immunization is reviewed thoroughly by Waksman(90). The technique of IF is described by Smith, *et al.*(84).)

Engel(25) describes an elegant cytochemical differentiation of muscles in a variety of neuromuscular diseases. In all forms of muscular dystrophy, except the myotonic, Pierce and Walton(68) found the same fiber necrosis, phagocytosis and even some regeneration as in polymyositis. They could not distinguish the subtypes on histological grounds alone.

Pearson(66) has found gradually increasing serum aldolase and glutamic oxalacetic transaminase in muscular dystrophy before the first hyalinization is visible in biopsies. Fifty percent of the muscle fibers are lost before weakness is perceptible. In the advanced stage of weakness when most of the muscle fibers are gone, the serum enzyme levels fall again to normal. Hughes (41) found increased serum aldolase and phosphocreatinase in carriers of muscular dystrophy, particularly sisters of patients.

Cardiac muscle is affected as early as skeletal muscle in progressive muscular dystrophy, as can be shown by ballistocardiography long before EKG changes occur(46).

Halogenation of steroids seems to increase their propensity to cause a myopathy which subsides when they are stopped(14).

Cerebrospinal Fluid. Cerebrospinal fluid glucose follows blood glucose changes with

a latency of 4 to 30 minutes and so for comparison, the blood sugar should be drawn half an hour before the CSF(51). In metachromatic leukodystrophy, the CSF reflects the rise of neutral lipids and cholesterol, but the metachromatic materials being in the areas of demyelination are not apt to reach the CSF(3). For cytologic examination of CSF using a millipore filter, saline should be added to the CSF to avoid excessive adsorption of the surfactants on the few cells(60).

Diagnosis. Shapiro has written an excellent monograph on myelography(79). Di Chiro has used laminography to prepare a superb atlas of normal fractional pneumoencephalography(22).

Humphry and Shy(42) have reviewed their experience with diagnostic EMG's in 159 patients. Intensity-duration curves fall by the third day if the facial nerve has degenerated in Bell's palsy, whereas fibrillations are rare before the tenth day(16).

Transillumination of the infant skull will demonstrate subdural hematomas after 4 to 7 days when the blood has hemolyzed(40).

Positional nystagmus of central type (persistent vertigo and nystagmus as long as the head is in the posterior dependent position) may signify a subtentorial metastasis(17).

A classification of headaches has been drawn up by the ad hoc committee(1).

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ALCOHOLISM

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Lester(1) gives a lengthy review of the literature regarding the presence of ethyl

alcohol in the human body and its serving as an important source of energy. He speculates as to its occurrence as a result of

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exogenous and endogenous factors. He concludes

that (1) ethanol as such, and not another volatile reducing material, occurs in human beings and other mammals; (2) ethanol is formed endogenously and not as a result of bacterial fermentation in the intestinal tract; (3) the endogenous ethanol concentration varies from individual to individual; and (4) the concentration of ethanol may be increased in a number of ways, notably by hypoxia.

The rate of formation of ethanol at the low concentrations probably obtaining in the human requires the formation of 0.79 g. of ethyl alcohol per hour in the 70-kg. adult for each increment of 10 mg. of ethanol per liter of serum. As a normal level in human beings of between 20 and 30 mg. per liter seems not unlikely, 1.6 to 2.4 g. of ethanol may be produced per hour, accounting for some 14 to 20 per cent of the basal energy requirement.

Because of the bearing this may have on the addictive process, on the genesis of alcoholism and on the treatment of the alcoholic, some suggestions are made for a thorough investigation of this question to resolve all matters at issue with regard to the endogenous nature of the ethanol and its identification and concentration.

In a second paper Lester describes in detail experiments conducted to clarify the question of endogenous ethanol. The last paragraph of his summary is quoted: "It is concluded that ethyl alcohol may be present in humans in concentrations up to 1.5 mg. per liter of blood but whether this alcohol is of endogenous origin is unresolved; even if such formation were endogenous, its fraction of the basal metabolic rate would not exceed 1 per cent. A possible role of endogenous ethanol in a theory of the etiology of alcoholism appears excluded."

Several articles have appeared dealing with the toxicity of the congeners. A study of the lethal dosage in rats of the congeners in whisky showed that furfural was the most toxic and that other congeners such as aldehydes, esters and acids were all more toxic than was ethyl alcohol. Another test comparing the congeners of vodka to those of whisky(2) showed almost no effect when vodka congeners were followed by 4 oz. of vodka. Whisky congeners had a salty, sour, pickle taste and produced a

feeling of revulsion. When 4 oz. of whisky was taken a feeling of elation was produced followed by confusion. The authors conclude that whisky allergies can occur and recommend vodka over whisky for therapeutic use.

A very large number of articles have appeared during the year discussing the merits of various drugs for the treatment of acute alcoholism and delirium tremens. Many of these articles contradict the claims given in other articles and there does not appear to be any conclusive proof of any new drug treatments of especial value.

Walsh(4) calls attention to the occasional appearance of Korsakow's psychosis following immediately a convulsive seizure. He feels that the dementia in some chronic alcoholics is due to this. He advocates the use of anticonvulsants and vitamin B during the withdrawal period. He claims that during a convulsion brain metabolism and consequently the expenditure of B vitamins may be increased fifty-fold. He considers permanent brain damage may occur if the metabolic processes in cerebral neurones are stopped for more than about 5 minutes.

The argument still continues as to the magnesium levels in the serum in acute alcoholism and in delirium tremens.

In an interesting discussion of the new Rutgers Center of Alcohol Studies, Selden D. Bacon(5) points out that there are questions and needs—from the needs which the academic disciplines have to other questions and needs which those confronted with the practical solving of problems have connected with alcoholism. All of this can perhaps be best summed up by quoting the last paragraph of his paper.

The Center of Alcohol Studies, then, is primarily a research organization. Its purpose involves biochemical studies of alcohol in relation to brain, to liver, to total organic functioning; it involves study of the processes of thought, perception, and emotion; it is concerned with analysis of custom, of innovation, of sanction, of group, of the taking-on of cultural patterns, of attitudes and moral convictions, and of their interplay and growth. It studies both the usual or "normal" and also the unusual or deviant or "pathological." Hence it is interested in ordinary drinking as well as in alcoholism. It takes questions from academic

and also from "practical problem" sources. It tests emerging answers and hypotheses in artificial and in natural settings; thus its researches are conducted in the library as well as in the laboratory, in the field and in the clinic. By focusing on one set of human and social phenomena it attempts to bring a wide scope of arts and sciences into a meaningful and useful integration. It makes its findings and interpretations useful not only by contributions to the world of research disciplines but also to the wide diversity of social-action groups concerned with problems related to alcohol and its use, perhaps above all to those concerned with health. Of special importance to the Center is the matter of collecting, editing, storing for systematic retrieval and selectively communicating both its academic and action-group findings, using all modes of communication and attempting to analyze and assess the communication process itself.

Marvin A. Block(6), Chairman of the Committee on Alcoholism of the AMA, details the program of the Committee. The final paragraph is quoted to indicate the conclusions and attitude of this committee.

The etiology of alcoholism is still a mystery. We do know that many sociological, legal, economic and cultural factors contribute to the possibility of individuals becoming alcoholics. In the field of prevention, knowledge about these factors can be brought to bear most advantageously. Rehabilitation, however, can be accomplished only by dealing with individuals who suffer from the illness. Until we understand the individual and his problems, both physical and mental, we cannot help him. It is important, therefore, that in any educational program, whether for professional or laymen, the medical and psychiatric aspects of the disease be taught in detail, and the participation of the physician in every type of program is essential.

The House of Delegates of the AMA adopted the following policy statement (7): "Blood alcohol of 0.10 per cent be accepted as *prima facie* evidence of alcoholic intoxication, recognizing that many individuals are under the influence in the 0.05 to 0.10 per cent range." This followed recommendations by the AMA Committee on Medical Aspects of Automobile Injuries and Deaths and by the AMA Committee on Medicolegal Problems approving such a statement.

In a paper entitled "Some Recent Physiological and Biochemical Investigations on Alcohol and Alcoholism," Kalant(8) gives a careful appraisal of the subject with some 133 references.

Davies(9) presents an interesting article which points out that most authorities agree that no alcoholic will ever be able to drink normally again and that successful treatment requires abstinence to be total and lifelong. He then describes "seven men who were treated for alcohol addiction and who have subsequently been able to drink normally for periods of 7 to 11 years after discharge from hospital . . . It is suggested that such cases are more common than has hitherto been recognized, and that the generally accepted view that no alcohol addict can ever again drink normally should be modified, although all patients should be advised to aim at total abstinence."

Two articles discussing this same problem(10, 11) bring out further interesting material, followed by a summary of the general discussion of these two papers presented at the Michigan Institute of Alcohol Programs, Apr. 1960. Moore feels that most therapists insist on abstinence as a part of the treatment. He concludes "Differences of opinion as to the need for abstinence in the treatment of alcoholism may partly reflect uncertainty concerning its etiology. A major reason for the controversy, however, rests in the viewing of alcoholism as a neurotic disorder. When it is seen as a manifestation of a deeply ingrained, hedonistically oriented, ego-syntonic disturbance, protected from detection through the defense mechanism of denial, the controversy seems more academic. Abstinence as the first step in the treatment of alcoholism is desired, though more often difficult to obtain, and is based on the psychological understanding of alcoholism." Krystal agrees that abstinence is desirable not only as an end but also as a condition of treatment. However, he feels that it is not always possible to secure this and that this has to be worked out by rather intensive psychotherapy particularly dealing with the patient's fantasies in relation to alcohol. In the two-page summary of the general discussion the many problems that arise in the treatment of the alcoholic are brought up. There was a considerable

disagreement as to the length of time a patient required hospital treatment. The difficulties of the therapist avoiding the role of disciplinarian was emphasized as well as various other problems of treatment.

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GERIATRICS

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Signs of aging noted by H. Himwich(8) in well, elderly persons include decreased basal metabolism and oxygen consumption of the body at rest; diminished plasma flow through the kidney; altered cellular function; and loss of neurons in the brain, with lessened brain weight. The fewer neurons primarily cause the impaired volume of oxygen used by the brain; their continued loss leads to senile dementia, with decreased intellectual ability, forgetfulness of recent events and emotional blunting. By age 140, it is estimated, the brain would be half its weight and mental abilities be greatly impaired.

In a comparative study(9), 20 subjects with focal loss of tissue from the cerebral hemispheres, as verified by air encephalography, had impaired highest integrative functions. The degree of impairment was "directly related to the total number of inadequately functioning neurons," no matter where or how distributed throughout the hemispheres. Komarov(11) has speculated that possibilities for altering the intracellular biochemical and biophysical processes could radically prolong life. Bjorksten (4) has suggested that the only nutritional way to control aging on a molecular level is a low caloric but adequate protein intake, "so that free amino acids can draw off some of the intermediates which would otherwise cross-link proteins or nucleic acids over their amino groups." Science can find means to break down "even heavily

cross-linked proteins and nucleic acids." This theory is considered "compatible with Shock's ten criteria."

Shock's 10 facts about aging, as summarized by Leake(12), are: 1. With age the probability of death increases logarithmically, while measurements on functional capacities decline linearly. 2. The life span is related to genetic factors; 3. Is shorter for males than for females; 4. Is influenced by diet; 5. Is shortened by increasing temperatures and lengthened by lowering temperatures; and 6. Is shortened by nonlethal radiation exposures. 7. In the same individual, the rate of change with age differs among different organ systems; and 8. A generally reduced reserve against stress goes with increasing age. 9. The age changes are greater in total organ performance than in intracellular biochemistry; and 10. With the complexity of the performance measured, the age changes increase.

Rural life, continued activity, heredity and abstinence from sexual indulgence, smoking and alcohol favored longevity in a Russian study(5) of 217 mountainous people aged 100-147. But a large scale study of aged Kentuckians gave no edge to rural over urban living(22).

Ross' review(18) of studies on centenarians pointed to factors of morale in the aged as important, particularly high motivation and group participation and achievement.

At Duke University the results of a geriatric comparative study of healthy community volunteers, residents of an old age

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home and state hospital patients suggested that not age per se but health status critically determines the degree of relationship between EEG and intelligence test correlations. Only diffuse slow activity and slow alpha rhythm, both increasing with age, were significantly related to impairment of intellectual function in the two institutionalized groups but not in the community volunteers(15). In an Indiana study(10) of patients with verified brain damage the Halstead Index picked up both older and younger subjects with brain damage but with normal EEGs. The Birren study(3) of speed performance established a general speed factor of slower response with aging.

A British geriatrician(17) in a 2-year controlled study of 72 aged patients with paranoid illness found high dosage of phenothiazine drugs for several months very beneficial. Most of these patients (usually given a poor prognosis) materially improved or lost their symptoms.

Nialamide therapy benefited 50% of 65 depressed patients aged 60 to 80(2), but 20 chronic male geriatric patients improved only slightly(21). Ethyltryptamine was an effective energizer in a controlled study of 56 patients with parkinsonism and reactive depression(6). Electroshock therapy proved effective in very depressed schizophrenic patients who had not responded to a fair trial of antidepressant drugs. Maintenance ECT was successful in a group of depressed patients who did not improve for long with any therapy(13). A number of other reports concern improvement after use of various psychopharmacological therapies.

An attempt to increase self care and activity in aged patients in a 96-bed hospital custodial ward brought a good deal of improvement, with release of a considerable number. A British writer(19) has insisted that all long-stay geriatric wards can be developed into therapeutic communities. To reduce the numbers of long-term Welsh patients, a special type of residence for the ambulant confused aged has been proposed (1).

In a 5-state study of persons aged 65 and older, 510 highest scorers in personal adjustment were compared with 428 lowest scorers. The superficial positive factors for good adjustment included marriage, home

ownership, high school education or better, participation in social, civic or professional rather than church organizations(20).

Cumming and Henry(7) in their report of normal aging persons, a section of the Kansas City Study, have developed the disengagement theory of aging as an inevitable mutual withdrawal, with varying but decreased interaction, between the aging person and his social milieu. Ideally, old age should succeed middle age and not prolong it, and the healthy old person may properly devote some thought to death.

Three writers have outlined the advantages for both pensioner and employer of second jobs after retirement(16).

From a study of a large American Catholic religious male order, Madigan(14) has retrospectively suggested that these men because of their high role satisfactions and despite their many life stresses lived longer than did white males in the general population of the study period. Admittedly, research is needed.

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EPILEPSY

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The parameters of electrical stimulation alter the characteristics of a seizure. The longer the duration of the stimulus to the hippocampus, the more involved the seizure and, though repeated hippocampal after-discharges do not modify the local threshold(1), the general convulsive threshold is increased by repeated (1 to 21 day) electroconvulsive seizures(2); the importance of the parameters of stimulation was emphasized by the study of a single, epileptic patient with chronically implanted electrodes in whom, depending on the parameters and sites of cortical stimulation, there were: local electrographic responses, distant potentials, contralateral homologous responses, diffuse responses, or activation of epileptiform discharges which were isolated or bilateral, diffuse, 3/sec. wave-spike complexes(3). Dow and his associates(4) found that stimulation of the cerebellum could inhibit the activity of an experimental epileptogenic lesion while ablation or cooling of the cerebellum enhanced its activity. Centrencephalic epileptics appear to have a cyclic retention of sodium with an electroclinical aggravation as the sodium increases and then a phase of improvement associated with a sodium diuresis. This is believed to be principally an intracellular sodium retention(5-8). Schneider and Rust(9) suggest that this is due to a disturbance of the diencephalic centers that govern hydroelectrolytic movements. The hydrolysis of ATP is, at least in part, coupled to a reaction with the sodium ion(10). Convulsions decrease by 50% the amount of "bound" (nondialyzable) brain sodium(11). In all these various sodium studies, potassium was usually either not affected or responded in an opposite fashion to the

sodium. Some children with "spike-wave epilepsy" may have an increase aminoaciduria(12). In 2 unrelated children with leucine-induced hypoglycemia, seizures could be induced by the administration of leucine even though the hypoglycemia was prevented by the continuous administration of glucose(13); in leucine-sensitive children, administration of galactose produces a hypergalactosemia and when leucine and galactose are given together, there is a marked decrease in insulin activity(14). Interest in gamma-aminobutyric acid (GABA) continues but its actual function remains controversial: systemically administered GABA influences the electrographic pattern in experimental epilepsy but the biochemical changes in the epileptogenic areas cannot be correlated in time with the electrical changes(15); hydroxamine or amino-oxyacetic acid can increase brain GABA, but electroconvulsive or hydrazid-induced seizures are unmodified (16, 17); and GABA or gamma-amino-beta-hydroxybutyric acid given intracisternally did not prevent toxopyrimidine or isonicotinic acid hydrazid seizures(18). On the other hand, GABA is reported to decrease hydrazide-induced running fits(19, 20), to be reduced in the brain of human epileptics (21, 22), to have an antagonistic action with strychnine, Metrazol, morphine or ammonium chloride (23) and to reduce the number of seizures and death due to oxygen toxicity(24). In experiments which differentially affect nor-epinephrine and serotonin (5HT), it is concluded that the convulsant, hexafluoro-diethyl ether decreases convulsive threshold by decreasing the nor-epinephrine rather than changing the 5HT(25); 5HT will exaggerate the EEG abnormalities in experimental epilepsy(26), will produce seizures in newly hatched chicks(27), is

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increased in the CSF in 4 out of 9 patients with convulsions although it was also elevated in a number of other types of CNS pathology(28), and is increased in the brain particularly in the mesencephalon and diencephalon after electroconvulsive seizures(29). Reserpine abolishes the anticonvulsant activity of a carbonic anhydrase inhibitor(30) and will increase the death rate after audiogenic convulsions(31). Extracts of brain after electric shocks are capable of facilitating the sleep effect of Evipan(32) and have a convulsant effect when given intrathecally(33). There is a lower convulsive threshold in females presumably because of the role of estrogenic substances(34-36).

Several studies reported on the relation between seizures and maturation; the type of attack experienced by the animal or human varies with age and follows the rule of the ontogeny recapitulating the phylogeny(37-40). Yakovlev discussed the histological changes of maturation and suggested that the development of a dense reticular grid of vertical and horizontal tresses of basilar dendrites and collateral axonal plexus along with other changes facilitates the development of the adult type seizures(41). Emphasis has been placed on the fact that certain types of seizures seen in infancy or young children are probably *types* of reactions rather than specific disease entities, e.g., the triad of massive spasms-mental deterioration-hypsarrhythmic EEG (42-45) or hemiseizures(46).

In the field of genetics there were reports of: the high concordance of epilepsy in monozygotic in contrast to dizygotic twins(47, 48); the positive relationship between susceptibility in mice to audiogenic seizures and "dilute coat-color" (animals who have decrease in phenylalanine hydroxylase activity)(49); and a family with photosensitivity and hyperprolinuria(50).

Obstetrical complications(51), neonatal asphyxia(52), being the first born(53) and having a very low birth weight(54, 55) all contribute to an increase incidence of epilepsy. The incidence of epilepsy in various disorders were reported; it occurs in 40-50% of patients with porencephaly(56), in only 2 of 34 patients with craniostenosis (and both of these also had mental re-

tardation)(57), in 22%(58) or 37%(59) of cases with cerebral cysticercosis, in 4% of children who have recovered from a bacterial meningitis(60) or 5% of children after tuberculous meningitis, in 5% of posterior fossa brain tumors and 37% of supratentorial brain tumors(61), in 17% of children with intracranial tumors (with an average of about 1.8 years between the onset of seizures and the diagnosis of a supratentorial tumor but only 0.3 years with an infratentorial tumor)(62), in 48% of 209 patients with a cerebral astrocytomata(63), in 13%(64) or 33%(65) of patients with cerebral angiomas, in only 3% of cases with closed head injury in whom the injury was unassociated with skull injury but in 5% who had injury to the skull, too(66), in only 6% of infants with skull fractures(67), in 42% of patients with chronic subdural hematomata(68), in 8% of patients who underwent psychosurgery(69) (with a particular predilection in patients suffering from catatonic schizophrenia(70)), in 36% of patients with phenylketonuria(71), in 14% of cases of retrolental fibroplasia(72), in 3% of patients with hyperthyroidism(73) and in 44% of patients who had neurological complications of abnormal hemoglobins(74). The general incidence of seizures in multiple sclerosis is about 4% but the characteristics and course of the seizures may differ from the usual chronic epilepsy(75-77). An unusually high incidence of at least one seizure may occur with mumps meningoencephalitis(78), with puerperal venous thrombosis(79, 80), in acute encephalopathies of obscure origin in infants and children(81), with acute uremia(82), in cerebral complications associated with open heart surgery(83), and with hypomagnesemia associated with infantile gastroenteritis(84). Among the unusual causes of seizures are reports of: a plastic explosive, C-4, taken orally(85), camphor oleogranulomata(86), late, acute poliomyelitis when there is an associated respiratory difficulty(87), touching the patient(88), the sound of church bells(89), reading(90-92), or performing simple arithmetic calculations(93). Two more cases of B6-dependent seizures were reported(94, 95). Among some of the interesting differences between groups of epileptics who have their seizures

while asleep or while awake are: the types of sleep cycles, the periods of peak performance during the day, the basic personality and the anatomical location of the brain pathology(96-98).

Twenty-four percent of the consecutive admissions to a state hospital with diagnoses of acute or chronic brain syndrome associated with alcoholism had convulsions (99). Towards elucidating the mechanisms of seizure production in alcoholics were studies demonstrating that: ethanol causes inhibition of the brain microsomal adenosinetriphosphatase by a process in which the normal stimulating effect of sodium is not lost(100); though the EEG of epileptic alcoholics are more abnormal than the nonepileptic alcoholics, the types of abnormalities do not have the usual morphological features characteristic of epilepsy(101); electroconvulsive seizure threshold in rats is decreased if they receive alcohol as their only fluid even though there are no significant pathological changes in the liver or endocrine system(102); and a post-alcoholic hypoglycemia is a not unusual cause of convulsions(103).

The one new anticonvulsant which has received the most consideration is Librium. It has usually been reported as efficacious both for seizures and for any accompanying behavior disorder(104-108); this, however, has not been the experience of everyone (109, 110). A chemically related compound, LA III, has some anticonvulsant properties, too(111). Massive doses of Librium taken in suicide attempts have not caused death (112), but the drug can cause a dermatitis (113) and seizures on sudden withdrawal (114). Also of interest in the field of pharmacology are: the very successful use of intravenous hypertonic urea for the control of status epilepticus(115), studies of the serum levels of the demethylated product of Tridione (DMO) after daily oral administration (there is a gradually increasing serum level for 3 or more weeks before it tends to level off, a serum DMO level of about 700 mgm/L is needed for good control of seizures, and excretion is increased by increasing urinary pH)(116), the paradoxical effect of morphine in facilitating electroconvulsive seizures except in rhinencephalic-damaged animals where it

will elevate the seizure threshold(117), and pretreatment with barbiturates antagonizing the hypoprothombinemic effect of coumarin anticoagulants(118).

In monkeys with experimental temporal lobe epileptic lesions there appears to be an inconsistent perceptual response or a deficiency of integration of prior experiences (119) or, more generally, experimental epileptogenic lesions seem to interfere with effective learning of a task rather than with memory, the specific type of task involved being dependent upon the particular area of cortex involved(120). In 96 psychomotor epileptics, 16 evidenced ictal emotional symptoms, particularly fear or depression (121). The 2 to 6-day episodes of withdrawn behavior that had occurred over a 30-year period in an elderly female were found to be prolonged epileptic seizures (122). In patients with petit mal, there may be a retrograde amnesia for several seconds before the seizure(123) as well as periods of "bewilderment" for 2-3 minutes unassociated with any paroxysmal EEG abnormality(124). Sixteen of 97 patients with bilateral, synchronous spike-wave EEG activity were seizure-free but all of these patients had some sort of psychiatric disorder; in the other 81 patients, there were varying degrees of behavior disorder with the highest incidence being associated with polyspike-wave and 3/sec., irregular complexes and the lowest in association with regular, 3/sec. spike-wave (125). Attention is drawn to a syndrome of "schizophrenic-like psychosis of epilepsy" in which the epilepsy usually precedes the psychosis by about 14 years without any undue schizoid traits in the prepsychotic personality; there often appears to be less involvement of affect than would usually be expected in such a group of psychotics (126). Psychomotor epileptics or epileptics divided according to the area of maximal EEG abnormality are found not to manifest a deficit in verbal I.Q. relative to performance I.Q.(127, 128). No significant differences in the MMPI are found in groups of epileptics who are divided according to the presence or absence of brain damage(129). Psychiatric studies done on convulsive children and patients with temporal lobe seizures were reported but these defy any

condensation in such a short review as this (130, 131). From a sociological standpoint, it is of interest that the main reason for hospitalization of female psychomotor epileptics in an institution is a social one, *e.g.*, death of the mother who had formerly cared for the patient, *etc.* (132).

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PSYCHIATRIC SOCIAL WORK

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One of the most significant trends in psychiatric social work in this past year has been the increased involvement of social workers in therapeutic community programs. The therapeutic community emphasizes on social functioning and its efforts to understand and harness the social dynamics of the institution afford the social worker an excellent opportunity to make a contribution which flows directly from social work training and competence.

Since the therapeutic community is so much in vogue, the term has been appropriated by hospitals, day centers, correctional institutions and other settings, having a tremendous range of treatment philosophies and programs. For purposes of this discussion, therapeutic community will be considered to have the following characteristics.

1. Emphasis is placed on the current social behavior of the patient in interaction

with the social processes of the institution. Relatively little attention is paid to the psychopathology of the individual patient and psychodynamic insight is not a primary objective. Rather, an effort is made to help the patient see, understand, take responsibility for and ultimately alter his characteristic ways of interacting in a variety of social situations. Increased awareness of and respect for social expectations, and increased satisfaction in conforming to the demands of the social organization are primary objectives.

2. The traditional, confidential, one-to-one, patient-therapist relationship is largely supplanted by a large, complex and highly visible network of relationships with patients and staff. The intent is that all such relationships have healing properties. The patient is expected to participate actively and responsibly, not only in his own treatment, but in the treatment of his fellow patients as well. Treatment responsibility is distributed among patients and staff.

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Traditional staff roles and statuses undergo changes, *e.g.*, personnel low in the status hierarchy, who formerly had custodial functions, are encouraged to see themselves as having important treatment functions. Much of the treatment takes place in community meetings in which all of the patients and ward staff observe and comment upon current behavior. The patient is denied the secrecy of the traditional treatment relationship. His problem behavior is discussed by his peers and he is helped to face the social consequences of his behavior. Social pressure is brought to bear in an effort to produce behavior in conformity with social norms. Reality testing and reality confrontation are carried out in the same context. Distortions and projections are examined critically, while appropriate problem-solving efforts are actively supported.

3. The therapeutic community places a very high value on communication of feelings and information. In order to improve the quality and quantity of communication (and to distribute treatment responsibility) a democratic atmosphere is assiduously cultivated. Social distance between patients and staff and between echelons of staff is much reduced in order that behavior of both patients and staff may be freely discussed. All members of the community, staff and patients alike, are expected to take responsibility for the success of the enterprise by attending meetings, discussing their feelings, feeding information into discussions, participating in decision making, accepting group consensus as reality, being responsive to social pressure, being supportive and being confronting in non-punitive ways. At the staff meeting which follows the community meeting, staff behavior is commented upon, in an effort to reduce authoritarian, covert, punitive or other behaviors which are idiosyncratic or carried over from more traditional types of treatment practice.

4. Patient government and community therapy activities create a formal organization for patients. This formal organization is then placed at the service of the treatment objectives of the staff. A formal organization is a more effective instrument for transmitting and enforcing the middle class and mental health values of staff. Patient leaders

learn from staff which values, attitudes and behaviors are socially desirable and they transmit same to their fellow patients. The value system which is taught is very similar to what is taught in schools, including work, responsibility, impulse control, planning for the future, postponement of gratification, interpersonal skill and resilience under stress. One precept which is vigorously taught is unique to the mental health professions. It has to do with verbalizing rather than acting out or internalizing emotional distress.

5. In the therapeutic community most treatment takes place in a group context, reducing the opportunity to individualize the patient. There is an implicit assumption that the values and skills which are considered so serviceable for all patients in the hospital community will be equally serviceable in the community to which the patient will return. It is to this last characteristic that a major social work contribution is addressed. The assumption that the social interaction techniques learned by patients in the hospital are equally applicable in the community is highly questionable. Various economic, racial and cultural groups embrace values very different from those of the therapeutic community. For example, patients in the therapeutic community are taught to discuss their feelings with their peers. This ability in a patient is considered a sign of good response to treatment and is rewarded by staff and by other patients. However, if the patient returns to a working class neighborhood and discusses his anxieties with his peers in the hiring hall or the corner bar, he may be viewed as grossly deviant and teased, rejected or otherwise punished by a group which believes that real men act out, rather than talk out, their feelings.

The Social Work Role. The social worker, as part of his responsibility for social diagnosis and discharge planning, secures a picture of the specific social context from which the patient comes and the one to which he will return. This information is made available to the entire ward team, but the social worker carries the primary responsibility for mediating the differences between the hospital community and the patient's home community. The patient is

helped to see that certain types of emotional expressions which are actively encouraged in the therapeutic community may be socially unacceptable in his peer group, or emotionally unacceptable in his family. If such is the case, the types of expression in question should be confined to the relationship with a professional person in one of the aftercare resources which are such an important part of the discharge plan.

If the progress made by the patient in the hospital is to stand up in the community, the behaviors learned in the hospital must be adapted to the unique demands of the patient's life and bulwarked by an aftercare plan which will continue to reinforce the ego strengths and social skills necessary for survival in his subculture.

In the therapeutic community, social workers continue to carry such traditional functions as social diagnosis, casework with patients and their families and discharge planning. In addition, they take an active part in therapeutic community meetings

and in staff "re-hash" meetings. Their knowledge of social process makes them useful participants in the planning and manipulation of the social organization which is intended to be a therapeutic milieu. But their most significant contribution is in helping the patient grasp the social insight and skill learned in a group situation in the hospital and apply it in an individual situation in his own home and neighborhood.

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MENTAL HEALTH IN EDUCATION

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Mental health in schools is fostered by encouraging the child to have confidence in himself, Ruby H. Warner says in a recent Library of Education publication (1). In modern schools, she notes, teachers understand better the ways in which children grow and develop, and the children work in small groups because of the stimulation that comes from working together—with better mental health results.

In a recent review of the mental health possibilities in education, prepared for the National Association for Mental Health, Dr. Harry Milt begins by citing what he terms "a very useful categorical distinction that originated with Dr. Nina Ridenour"—the distinction between "education *about* mental illness" and "education *for* mental health" (2). Under this second category would be education *for prevention*, i.e., education designed to eliminate factors which contribute to mental illness, and education for

positive mental health, or "education oriented toward higher development of one's potential." The question is repeatedly raised: Does this kind of education really prevent mental illness and does it really improve mental health? There are many of us, Milt says, who would answer both of these questions in the affirmative—but how do we have any proof? He cites as an example the possible effects of the leaflet *Mental Health Is 1, 2, 3*, more than ten million copies of which have been distributed through schools, family agencies, PTA's, and many other organizations. "I very much doubt," he says, "whether there exists one single shred of positive proof that this leaflet has achieved this result for a single person." That does not mean that it has *not*, he says, "but we cannot prove that it has."

Importance of the study of early childhood situations for mental health is emphasized in a report by Dr. Beulah Parker (3). A relatively small but significant num-

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ber of problems presented by nursery school teachers, Dr. Parker finds, have their origin in the personal conflicts of individual teachers. "The teacher reacts to a child's difficulty as though it were identical with something she herself suffered as a child. Furthermore, even though the teacher herself may have a clear understanding of the reasons for emotional tensions in a child, the teacher is not trained in the techniques for making interpretations to a mother about disturbed family relationships." A consultant can help teachers determine the best level for their interventions, Dr. Parker says.

"School phobia" as one of today's school mental health problems is discussed in a recent report by Donald A. Leton, of UCLA(4). Dr. Leton describes this as simply "a condition of anxiety as related to school attendance." The term implies, he says, that the child has localized fear of school and of the experiences he may encounter there. This inference is not entirely accurate, he says, since most children who manifest school phobia have actually enjoyed school, but cannot bring themselves to participate again in this enjoyment. On the basis of referrals in school psychology over the past ten years Leton estimates that approximately 3 of every 1,000 primary-

grade pupils will show a severe school phobia in any given year, and that the incidence of milder chronic cases may approach 10 per thousand in the school grades.

At the college and university level "there is a growing appreciation of the important role mental health and emotional factors play in the academic adjustment of college students," Charles D. Spielberger reports as the result of a study prepared for the Southeastern Psychological Association(5). "Even apparently well-adjusted students have their share of emotional difficulties," he says. Perhaps the most important implication of the findings of the study, Dr. Spielberger says, is that it appears possible to identify members of the college population who, because of emotional problems, would not be likely to function at levels commensurate with their intellectual potential.

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PSYCHIATRIC NURSING

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The field of psychiatric nursing continues to advance in the areas of clinical nursing practice, nursing education, nursing service, the mental health aspects of public health nursing and nursing research. Nursing groups have been studying the Joint Commission on Mental Illness and Health report—*Action for Mental Health*. An ad hoc committee of the ANA-NLN Coordinating Council has been appointed to identify those areas in the report which have implications for nursing and recommend appropriate allocation of responsibility for study and/or implementation between the Amer-

ican Nurses' Association and the National League for Nursing.

The past year has given substantial evidence that nurses are vitally concerned with the problem of their role definition as individual practitioners and as members of the psychiatric and nursing teams. Psychiatric nursing is viewed as a special vocation concerned with meeting the needs of the emotionally and mentally ill as well as maintaining and promoting health(1). The role of the nurse as a therapeutic agent(2) has been explored from various viewpoints, that of sociotherapist(3) and as a special psychotherapeutic nurse who is responsible directly to the physician(4).

Areas of concern in the clinical practice

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of psychiatric nursing include care of patients with marked regression(5), muteness(6), and chronic helpfulness(7); the need for consistency in setting limits on patients' behavior(8), the value of assessing and appraising the patients' areas of positive functioning in nursing care(9), and patients' perceptions of the nurses' uniform and its meaning in a psychiatric hospital (10). One group reported on the role of nursing personnel and patients in changing the physical environment of the hospital (11).

The nurse's role has been explored from the standpoint of the independent functioning of the nurse in maintaining and supervising the patient's environment(12), the functions of the psychiatric nursing specialist(13), and the relationship of psychotherapy and the practice of psychiatric nursing(14). Interpersonal techniques are viewed by one expert as the crux of the practice of nursing in a psychiatric setting and the counseling role as the heart of psychiatric nursing(15). Specialized aspects of the nurse's role included participation in group therapy(16, 17) and the use of work therapy in the management of disturbed patients(18). A social interaction inventory has been developed to assess the nature of verbal responses selected by nurses faced with emotion laden situations representative of those encountered in their practice with patients and families(19). The need to evaluate nursing care in a mental hospital was recognized by the nursing service in one hospital and a form was devised for this purpose(20).

Increasing interest has been given to the nurse's role in the day hospital for psychiatric patients(21). In day and night care centers the nurse is focussing her work primarily with a group rather than with individual patients(22). The nurse in the psychiatric clinic is seen as an active member of a therapy team, an active participant in intake work and workup, and as a collaborative therapist(23). One study concluded that the nurse may make a vital and hitherto neglected professional contribution to patients in an adult psychiatric clinic(24). Nursing personnel have been concerned with the nursing care of the mentally retarded in the hospital setting(25) as well

as the public health nurse's function in the community in a program for mentally retarded children(26). There is also evidence of need to determine the role of the nurse with troubled children(27).

The clinical programs at the ANA biennial convention, at meetings of NLN state and local councils on psychiatric and mental health nursing, and at the APA meeting give ample evidence of the active interest in nursing practice by all nursing groups.

Nursing educators have been concerned with the integration of mental health and psychiatric nursing content in the baccalaureate nursing program(28). This area was the focus of a working conference for instructors in baccalaureate nursing programs sponsored by the NLN. The education and preparation of the nursing student in psychiatric nursing is considered an important factor in recruiting nurses for practice in the field(29). Measurement of the attitudes of diploma nursing students about mental illness indicated that change in attitudes is not merely a matter of increasing information or providing contacts with mental patients, but involves a number of factors not clearly delineated or understood(30).

The education of the psychiatric aide or technician is of vital concern for psychiatric nursing. Attempts have been made to make training programs more effective and useful (31). An evaluation of aide performance as perceived by nurses, aides and patients indicated that performance evaluations of aides are best made by the nurse who works directly with the aide(32). One study tested the hypothesis that there is an improvement in ward adjustment of patients resulting from a similarity of commonly held likes and dislikes between patients and their assigned aide trainees(33).

Aides, attendants, technicians and practical nurses have reported on their work with disturbed, geriatric and regressed patients, retarded children, patients in nursing homes and their role in remotivation. The use of the remotivation technique has been of special value to this group of workers (34).

The administrative aspects of nursing service in psychiatric settings have been explored. The primary task for the nursing

service administrator is described as being able to obtain sufficient leadership staff who can collaborate in the development of a philosophy and a conceptual framework for nursing service(35). The area of supervision is considered one that is fertile for research(36).

The role of the public health nurse in mental health problems and in nursing services for the discharged psychiatric patient and his family is an area of concern for public health nursing. The need for referral of patients to appropriate agencies has been stressed(37). The participation of the public health nurse in early recognition of mental health problems, the giving of supportive care and/or referral are seen as meaningful tasks for public health nursing students and practitioners(38). Programs that provide for psychiatric aftercare of patients and their families are important factors in the provision for continuity of nursing services(39, 40). Public health nurses as well as psychiatric nurses need to be adequately oriented so that they may work collaboratively and cooperatively in their task of providing continuity of care for patients(41).

The recruitment of nurses for placement in psychiatric settings, a problem of joint concern for nursing service and nursing education, needs continuing study and evaluation. While there is considerable interest in nursing research, increased efforts will have to be directed in the research area concerning such problems as role definition of the psychiatric nurse, the relationship of educational experiences to career choice in psychiatric nursing, the role of the aide or attendant as a member of the nursing team, and patterns of nursing service in psychiatric settings.

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FAMILY CARE AND OUTPATIENT PSYCHIATRY

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FAMILY CARE

Karl and Russell(1) report that in the 40 Veterans Administration Hospitals that employ family care 9% of those placed were in the hospital less than one year ; 51% one to 9 years ; and 40% had been in the hospital over 10 years. Last year, almost 4,000 improved psychiatric patients were on trial visit from VA Hospitals in homes other than their own. This is an increase of 129% in the 5-year period.

Barton(2), in a new book, *Administration in Psychiatry*, describes the assumptions governing the use of family care. The chronically ill live more normal lives in family care than on the wards of a hospital. It is less costly, avoids capital construction and saves personnel. It reduces overcrowding and over concentration of patients. It provides an opportunity for adjustment of individuals who have families that are too stressful or are unwilling to accept them. It serves as a half-way facility for selected patients. It provides a test of the capabilities of adjustment in the community for the older patient.

Mayotte(3) suggests the goals of family care have changed to include : placement of patients who are in courses of vocational training, or receiving on-the-job training in the community ; placement of patients who require a substitute home pending the determination of eligibility for financial assistance under some other welfare program ; financial assistance at family care rates to distant relatives if they will provide a suitable home, and placement of retarded

patients who may then attend special classes in schools or work in sheltered shops. Monthly payments are added to the caretaker's allowance for transportation.

Davis(4) stated that in Norway one half of all mentally disturbed patients live in the community with foster families. For example, the Dikemark Hospital has 800 inpatient beds and 950 patients in family care. Norway (in 1961) had 5,000 patients in family care, 3,000 patients in nursing homes and 8,000 patients in mental hospitals.

Dumont(5) was a member of a survey team that visited Gheel, Belgium. They sought to learn the reasons for the drop in the number of patients being placed in family care. There has been a decline in the tradition observing the religious ritual or of belief in the magical power of the relics of St. Dymphna. Psychiatrists in Belgium do not favor family care. In spite of the rising standards of living, the industrialization of the country, and the static remuneration paid to caretakers, citizens still maintain a "know-how" to manage mental patients well, and would accept more patients than are presently referred.

Abrams(6) believes there is less need for family care because there are fewer suitable patients now remaining in the hospital ; that its use is limited in those who remain ; that the few staff members available are unable to prepare patients for placement, or to supervise them afterward. He believes that the energy available might be better expended on increasing the efficiency of the acute intensive treatment programs in the hospitals rather than work with the chronically ill. He concludes that few people seem willing to

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accept former patients into their homes.

Bowen and Fischer(7) sampled 5% of the total population of Marion, Indiana. Of the respondents 54% were willing to take mental patients into their home if the patient was a relative or friend; 28% would accept someone who was not related. Persons who were 35 to 54 years old were most willing and those over 55 less favorably disposed to accept ex-patients into their homes.

Family care provides a setting in which to learn normal social responsibility, according to McNeel(8). It serves as a stepping stone to church attendance, to participation in community life and to employment.

Davidson(9) suggested that psychotherapy, particularly group therapy, deserved a wider trial using the new environment of family care as a testing ground for new patterns in living.

Schutzer and Baldwin(10) warn that younger patients may become too dependent in family care. Those in the age group 17 to 28 with group sessions increased in self confidence, ventilated their fears and feelings, and were instructed in work opportunities.

Patients in family care in the United States and Canada as of June 30, 1962:

United States: Veterans Administration² 2,697; New York 2,880; California 2,412; Illinois 1,573; Michigan 1,154; Ohio 810; Maryland 468; New Jersey 439; Kansas 412; Rhode Island 274; Pennsylvania 245; Maine 210; Indiana 207; Massachusetts 206; North Carolina 200; Connecticut 81; Kentucky 37; Idaho 30; Virginia 17; Vermont 4. Total 14,356; 1960 total 12,507.

Canada: Ontario 1,300; Saskatchewan 98; Quebec (Verdun) 43; Prince Edward Island (Riverside) 23; British Columbia 2. Total 1,466.

This demonstrates the continued growth in the family care program. California placed 55% more patients in 1961 as compared to 1959. The greatest expansion was in placement of the retarded. One hundred dollars a year is allowed to each patient to buy clothes in the community where he lives; \$115 a month is the average payment made to caretakers. The program

provides orientation and group discussions as well as counselling for foster home mothers. Volunteers transport patients to family care and help develop recreational activities in the family care home.

New York, one of the heaviest users of family care, showed a slight decrease in the number of patients in residence. A new policy reduced the number of patients in each family care home. Social and recreational activities were instituted for all family care patients. Enforced rules for safety insured no patients sleeping above the second floor, good housekeeping practices, good smoking habits, available fire extinguishers, hand rails on stairways, proper wiring and lighting, and an accessible first aid kit.

Maryland has been experimenting with the use of foster homes as an alternate to hospitalization.

Rhode Island reports about one third of the patients in family care are in supervised work placements in the community.

Michigan increased its appropriation for 1962 and 1963 to permit growth of the family care program as additional staff are employed.

North Carolina provides homemaker services for the elderly.

In Massachusetts placements declined by about 50% in a two-year period.

In Connecticut the numbers reported would be larger if all patients living in extramural homes other than their own were counted. Patients are placed in convalescent and boarding homes in a cooperative plan with the Welfare Department.

Idaho has had a study project that provides motivation of patients into family care and into community work. Patients are employed in the principal industries of that state: mechanized farming, mining and lumbering. Of the patients placed 52% remained out, 48% returned, but half of those who returned were later replaced.

For the first time figures were obtained from Canada which show the use of approved homes for family care is increasing rapidly. Ontario has 13 hospitals in the program. Three hospitals with an aggregated 3,500 beds have 800 patients in family care. One hospital alone has 330, equal to 25% of its patients in residence.

² Calendar year 1961.

The Province of Ontario hopes to see an increase in the provision of hostels and half-way houses and the operation of these facilities by the community rather than by the hospital system. Nurses are preferred to social workers to supervise patients in family care by some hospitals. Medical service to patients in family care is provided by local practitioners.

In Saskatchewan the program has been developing slowly since its start 7 years ago. The availability of homes greatly exceeds the number of patients placed. Only the number of social workers and money available limits the program expansion.

In Prince Edward Island patients over 65 provide the bulk of those in family care. Mental defectives and chronically ill schizophrenics predominate as the most common diagnostic disorders in patients placed. The average length of residence in family care was 15½ months. Patients are placed in a family with the same religious affiliation. Family care is less expensive than hospital care and patient functioning is markedly improved over that observed in the hospital. There has been no difficulty in their own homes.

In Verdun, Quebec a 5-year study was completed on 113 patients placed in 90 family care homes. Schizophrenia was the most frequent diagnosis. The average stay in the hospital of those placed was 6½ years. Nearly one third of the group studied had been discharged from family care. Their survey showed that a majority of the caretakers manifest a high degree of interest in their patients.

OUTPATIENT PSYCHIATRY

Brown(1) indicates that 60 of 128 patients on a waiting list at the Massachusetts Mental Health Center received a home visit by a team of psychiatrist and social worker. They also interviewed the referring psychiatrist and found that 27% of psychiatrists had never made a home visit; 38% made one to five such visits a year and 20% made 6 to 25 home visits in a year. Only 15% of psychiatrists had extensive experience in visiting patients in their own homes.

Lemkau(2) studied 10,000 adults in

Maryland (population of 3 million) who were admitted to 50 outpatient clinics. Most persons seen were in the age group 25 to 54. Of every 100 adults in the outpatient clinic, 44 are in treatment at the end of 4 months, 21 at 6 months, and 10 at 18 months. Patients in the age group 15 to 24 and over 65, as a rule, have very short periods of treatment, so do those who live in rural communities or those who suffer from alcoholism. Patients from the higher social and economic levels tend to spend a longer time in treatment. Veteran patients are in treatment the longest. Those lowest in economic scale have the shortest treatment time. Patients in aftercare, following release from a mental hospital, have long periods of treatment. About 2/5 of all the patients seen withdrew without notice. Fifteen percent of the patients seen in outpatient clinics were mentally retarded.

Perkins(3) surveyed the number of clinics in New York City to discover whether the recommended ratio of outpatient clinics to population, set down by the Joint Commission on Mental Illness and Health, had been achieved. He found that if part-time clinics were included, New York City now had one psychiatric clinic to every 60,797 people. Manhattan borough had reached the recommended ratio of 1 to 50,000.

Hankoff(4) studied the outpatient use of drugs in a double blind experiment: 169 chronic schizophrenic patients were treated. Twenty-two and a half percent showed denial of illness. Those who deny their illness are prone to rehospitalization and are often immobile in treatment. Patients given phenothiazine drugs tended to be more accepting of their illness, avoided hospitalization and showed improvement.

Ungerleider(5) described an emergency consultation service established at the Cleveland University Hospital. In a 6 month's period, 375 emergency calls were received. Some interesting statistics concerning those who used the service were obtained.

Stone(6) studied 65 adult psychiatric patients treated in an outpatient setting who were followed for five years. Most were diagnosed as character disorders and psychoneuroses. Most patients had 6 months of psychotherapy; 30 patients in the group

returned for evaluation. Anxiety and depression, when present, were reported to have been immediately relieved following therapy. Patients who were least improved were the ones who had had somatic symptoms. Most patients improved socially and had gained spontaneity in close relationships. The ability to respond to treatment, they felt, may be a function of the patient's success in communicating his difficulties, and of the acceptance of his therapist.

Nilsson and Kurland(7) surveyed a group of ex-patients who were capable of using their changed attitudes toward the mental hospital in a constructive manner. Their potential value in public education was suggested.

Englehardt(8) studied 275 schizophrenic patients in an outpatient clinic; all had been on weekly psychotherapeutic interviews. Patients came from the lower social and economic level in the community. They were unable to pay fees. Most were in the age range between 19 and 44. One third of the 275 patients had previous hospitalization for mental illness. All patients were divided into 3 groups: one received chlorpromazine, another promazine, and a third placebo. The need for hospitalization, change in thought disorder, and change in social behavior were noted. The results indicated a reduction in thought disorder that was greater in those who had been severely disturbed; drugs improved social behavior and reduced the need for hospitalization.

Ross(9) found that $\frac{1}{4}$ of the psychiatric clinics gave no time, or less than 10% of their time, to community services either in liaison, educational, or in consultation services. The author quotes Norman, who stated that 6% of staff time, in the clinics he surveyed, was used for promotion of mental health in the community.

Norman(10) noted a 32% increase of the number of patients receiving outpatient services in the 5-year period 1954 to 1959. Professional man hours available for outpatient services also increased by 41%. The 5-year growth in the clinic population exceeded the general population growth in the same period in the order of 32% as compared to 8%. New services for adults accounted for most of the expansion. There

are still limited clinic services for the pre-school child and for the adult over 60. A large number of patients surveyed withdrew from treatment without notice. Persons who had psychogenic disorders received more interviews and more attention than those with organic disorders.

Coleman(11) found that one-half of the patients who came to the psychiatric clinic turned away after one encounter. Lack of interest, lack of understanding, and discouragement were given as reasons. When the clinic assigned a psychiatric nurse, who made house visits, to work with patients, it appeared patients ventilated resentful feelings and returned more frequently for treatment.

MacLeod(12) reported that many seriously disturbed patients are unable to tolerate the one to one relationship in treatment in a clinic. He advocated greater use of brief supportive psychotherapy and of group treatment.

The Canadian Mental Health Association(13) states that there are 140 mental health treatment clinics, public and private, offering services in Canada. Continuity of care is a basic principle of medical treatment in a new long range program that would provide services for patients, without loss of job, in communities where they live.

Bahn(14), in a methodological study, comments that first admissions to mental hospitals have been used as an index of services to the mentally disturbed. Outpatient department figures have been used as a new measure in Maryland since 1954. The rates of admission to outpatient services are high for children of school age and low for adults in non-metropolitan areas and the reverse is true in Baltimore. Many more boys are seen than girls. The sex differential disappears at age 30. Pre-school children and the aged have the lowest rates of psychiatric clinic admissions. Outpatient services tend to be brief. Of all patients seen 56% had their final interview at the end of the first month and 83% had their final interview at the end of the eighth month, with a median number of interviews, only 4. There was a higher retention rate in clinic treatment for those who had been released from the

mental hospital and for those who lived in metropolitan areas.

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FORENSIC PSYCHIATRY

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Psychiatrists who recognize that the legal as well as social matrix of our society is inextricably related not only to a shared sense of justice but to the psychic health of the entire community will welcome the Model Penal Code(1) completed last year. Sponsored by the American Law Institute it follows a decade of dedicated effort by eminent legal scholars (including "our wisest judge," the late Judge Learned Hand) with the advice of psychiatrists and behavioral scientists under the brilliant

direction of Wechsler of Columbia. The American Medical Association sponsored its first National Conference on Mental Illness and Health(2) and developed a progressive program which, in many ways, complemented and reinforced the report of the Joint Commission on Mental Illness and Health(3). It included recommendations for the legal implementation of community mental health programs as well as the treatment of the drug addict, the delinquent, and the sociopath. All these reports are simply models for action lacking as yet the energy of official power; their worth de-

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pend on their implementation. If they do become effective, the level of care of the mentally ill, of the disturbed offender, the morale and effectiveness of our healing profession and the moral stature of our society will be elevated.

There were discussions of the sources as well as the forms of law. Hart(4) argued that natural law theory reflects basic truths about human nature and need not rest on metaphysical assumptions. Given the qualities of vulnerability, of approximate equality, and the human limitation of altruism, of understanding, of strength of will, and of resources, all societies must control violence, theft, and deception if they are to survive. K. Erikson(5) theorized that deviants express a community-wide need and that a specific fraction, usually young adults from lower economic classes, fulfill these relatively stable deviant roles.

Many were concerned about the right of the mentally ill to privacy, to just hospitalization and discharge procedures as well as to a clarification of limits of their responsibility for harmful social acts. Connecticut enacted a statute ensuring and defining the privilege of privacy of the patient's communication to his psychiatrist(6). The American Bar Foundation is studying the hospitalization of the mentally ill(7) in order to write a model act which will facilitate voluntary hospitalizations without jettisoning legal rights. As in England(8) the goal is to eliminate unnecessary distinctions between the treatment of the mentally ill and other sick persons. Several states including Ohio(9) have recently enacted codes for the care of the mentally ill which do tend to increase such hospital admissions. New York State requires petition and medical certification but may spare the patient himself participation in the legal procedures. This was upheld by a New York court as being consistent with due process since subsequent statutory hearings are available. A *Harvard Law Review* note(10) challenges this decision and favors serving personal notice to each patient. Curran(11) also upholds personal notice pointing out that friends and relatives may seek the patient's confinement. He doubts that serving legal notice "by a constable, too" causes "serious harm" to the mentally ill. (The re-

viewer's experience is not consistent with this judgment.)

Hess and Thomas(12) found that courts, psychiatrists, and hospitals misinterpreted and misapplied their roles in the proceedings leading to incompetency to stand trial in Michigan. Both the cause of justice and the welfare of the mentally ill suffer by this confusion. Szasz(13) raised the question of the psychiatric examination of the defendant for mental competency against his will. Glueck in his 1962 Isaac Ray Award Lectures offered a comprehensive legal formula for determining relief from responsibility for socially harmful acts. One of its novel features, on the American scene, is its provision for a mid-verdict of partial responsibility. Last year Judge Biggs, in the Currens case(14), wrote a decision freeing from responsibility defendants who "lacked substantial capacity to conform."² Goldstein and Fine(15), citing their finding that the indigent defendant had inadequate psychiatric assistance, observed that the language concerning responsibility is not meaningful unless it can be implemented with competent psychiatric testimony. Kuh(17) proposed that the issue of responsibility be tried by a judge without a jury.

Widespread preoccupation with narcotic abuse was reflected in the White House Conference on Narcotic Addiction(18). The report of the Ad Hoc Committee for the participants is an excellent precis and deserves national distribution. Narcotic abuse is, in fact, decreasing while excessive intake of such psychotropic but nonnarcotic drugs as the barbituates and dexidrene is increasing. There are marginal but significant subcultures whose members seek to breach their alienation and to achieve that sense of social cohesiveness and personal euphoria which the dominant community pursues through alcohol (the most widely used addictive drug). Holding that drug-abusers are treatable, the Conference re-

² In most U. S. jurisdictions the "right and wrong" and "knowledge" criteria of M'Naghten prevails. In some states this is combined with the "irresistible impulse" rule. There is also the "product" test of the Durham decision(16) and the Model Penal Code(1) which exculpates when there is "substantial impairment . . . to appreciate . . . or to conform."

jected long imprisonment³ or indefinite ambulatory maintenance dosages as proper social responses. Like the American Medical Association and the National Research Council of the National Academy of Sciences, the Conference seemed to favor institutional treatment where drug consumption could be controlled. In one study, Hirsch(19), who treated parents of adolescent drug addicts in groups, found a common pattern of the reluctantly and unhappily married mother whose son, sexually conflicted and passively related to women, turned to drugs. Israeli investigators(21), observing that in the Orient drug addiction is more frequent than alcoholism, partly because of the religious prohibition against alcohol, concluded that environment and culture determine the form which the addiction takes. Their subjects, mainly Middle and Near Eastern Jews were negativistic and hostile, and were considered untreatable outside a hospital setting. Bell(22) studying amphetamine addiction found no specific pattern of psychiatric disturbance although alcoholism and mental illness in the home and unhappy childhood were common. He found amphetamine addicts to be recalcitrant and tending toward deterioration. He therefore urged measures for prevention rather than post hoc treatment. Glue sniffing is a form of intoxication now available to even small children(23). Its effects range from mild euphoria to coma, and it may be habit forming as well as physically harmful.

Several papers emphasized somatic determinants of socially deviant behavior. Stott(24) reported a high correlation between certain physical disorders and behavioral difficulties. This, with Wilkin's finding that boys born during the traumatic early years of World War II had a higher proneness to adolescent delinquency, led to an hypothesis that congenital impairment of the nervous system may so reduce resistance to environmental stress as to predispose to delinquency. Anderson and Plymate(25) as well as Laufer(26) described adolescents with behavior disorders which seemed related to

cerebral dysfunction or brain damage. Woods(27) described a syndrome of adolescent violence associated with a 6- to 14-per second positive spiking dysrhythmia in the EEG. The dysrhythmia is, in his view, a biologically determined stress which in an impoverished ego permits the expression of non-neutralized aggression. Michaels(28) urged a holistic model in the study of delinquency. His earlier finding of the high correlation between delinquency and enuresis reinforced the hypothesis of Glover and others that some delinquency may be psychosomatic equivalents arising from imbalance of psychic excitation and discharge mechanisms. Klintworth(29) describing a monozygotic twin pair who were discordant for homosexuality reviewed also Kallman's series of monozygotic twins with concordant male homosexuality as well as other genetic evidence in support of the assumption that sub-threshold predisposing elements such as mutant genes and congenital factors may within the matrix of certain life experiences result in deviant sexuality. Petrie, *et al.*(30), studied the perceptual characteristics of juvenile delinquents who were more likely to be either "stimulus-governed" (characteristic in her experience of brain-damaged subjects) or, by the definition of the research, "reducers." Since "reducers" suffer from "monotony, isolation, and enforced inactivity," education of delinquents and pre-delinquents should, Petrie advises, be appropriately adapted.

Rothstein(31) differentiated the value perceptions of delinquents compared to non-delinquents as to which factors contributed to high social status (*e.g.*, toughness and notoriety versus loyalty and trustworthiness). The Gluecks(32) published another report from their bio-social study of the determinants of juvenile delinquency. In previous books, they proposed a predictive device based on intrafamilial relationships; later they described the somatotypic characteristics of the delinquent. Now they have analyzed particular individual and factor-trait interpenetrations within the family. They suggest that "differential contamination" is probably a more appropriate phrase than "differential association," in the sense that "contamination depends not merely on exposure but also on susceptibility as

³ In any event, the United States Supreme Court last year invalidated a California law which made drug addiction a crime punishable by imprisonment(20).

opposed to immunity." Michael and Colthorp(33), using the Glueck Social Prediction Scale, achieved poor over-all accuracy as individual judges but excellent(92%) group prediction of delinquency. However, they were only 23% correct in their expectation of non-delinquency. Lively, Dinitz, and Reckless(34) suggested the use of several scaling techniques to predict future delinquent patterns in 12 year olds.

The social structure of the adolescent gang was characterized(35) as based on a status hierarchy related to physical dominance but bound together by such relatively simple, common motivating tasks as anti-social destruction and direct instinctual gratification. It is thus at an intermediate stage of social organization between individual aggressive dominance and the complex social role definition based on division of labor. It provides an area for functioning in what to the youngsters is an alien culture. An impressionistic look at modern Parisian gangs(36) indicated that the social milieu from which they arise, poverty, overcrowding, poor recreational facilities, disrupted family life and community organization in the new low rent housing projects "banlieues," resemble those with which we are familiar.

The juvenile courts as old as this century, before whom 20% of youths between the ages of 10 and 17 now appear, are increasingly and variously criticized for being ineffective, for violating the child's constitutional rights, and both for coddling and being too harsh. The thrust of such criticisms as well as proper corrections are contained in an excellent published symposium(37) held at the University of Chicago last year. Vinter and Janowitz(38) have systematically studied juvenile correctional institutions ranging from those with custodial to those with treatment goals. Zald(39) reported from this study that the treatment institutions were in a continuous problem solving process and consequently were more obviously conflict ridden. However, a high level of conflict did not necessarily impede therapeutic goals but could, indeed, reinforce them.

An historical review of substantive and semantic differences within psychiatry and the law during the 19th century concerning

Pritchard's "moral insanity," the diagnostic ancestor of the sociopath, has a fascinating—and discouragingly—modern ring(40). In the personal development of the sociopath, O'Neal, *et al.*(41), found a high incidence of parental desertion, lack of supervision, divorce and non-support in the background of sociopathic personalities. Their fathers had often themselves been alcoholic, anti-social personalities. These paternal characteristics predisposed the son to sociopathy even when the father had not lived at home. Jones(8) appealed for more concerted and effective treatment of the sociopath, as the confluence of psychopathological, ethical, and legal questions, with community-wide resources. He cited his English experience and the pioneering experiments going on in California.

Suicide became a subject of much speculation and some research last year, perhaps reflecting the continuing menace of self-destruction facing mankind. The suicide of an American celebrity evoked intense and world-wide response. Meerloo(42) discussed mass as well as individual suicide. Stengel(43) estimated that in urban areas there were 7 to 8 attempted suicides for each of the reported 16,000 self-destructive acts per year. By this estimate there are about 100,000 suicidal attempts each year and one million living persons in this country who have tried to take their own lives. As an alarm, an appeal or an aggressive act it usually stirs at least one other person to reassure the victim that it matters whether he lives or dies. Bakan(44) tried to absorb the mood, the feeling tone of the suicidal personality through introspection and other means. Suicide, he saw as a symbolic or real defection of the social obligation to live, as a blocking of the durational or time sense where there is no expectation of future excitement or gratification. The suicide paradoxically attains independence and alienation through an act which expresses his interdependence with others. Outwardly conforming, in his exodus, he expresses antisocial impulses while eliciting pity. Toolan(45) found a few attempted suicides among very young children who were likely to be schizophrenic, but in the adolescent group where it is an important cause of death, character disorder and depressive re-

actions predominated. Boys outnumbered girls in "completed" suicides, but girls predominate in suicidal attempts. Precipitated often by real or feared loss of love object, the depressions of the young are often overlooked since they are expressed frequently in behavioral and somatic symptoms. Neither age nor diagnosis should obscure underlying depression. Satterfield(46) reported the death by suicide of an hysteric; psychiatrists too frequently dismiss self-destructive efforts of this group as histrionic gestures. Selzer and Payne(47) found some evidence that certain automobile accidents may be unconscious suicidal equivalents. There was a significantly high accident rate for men who had seriously considered suicide even though they were, at the time, unaware of any conscious effort toward self-destruction.

In many centers imaginative, inventive, and vigorous efforts were made to devise therapeutic techniques appropriate to social and behavioral problems. This is a wholesome reaction to prevailing practice of applying truncated conventional psychotherapy to inappropriate and unwilling subjects. Kitchener, *et al.*(48), conducted a 5-year treatment program for aggressive, acting-out boys 8 to 10 years old by channeling aggressive behavior into a game relationship in which the therapist could play a figure of control. The level of therapeutic response was geared to the level of perceived patient ego-integration. Interpretation progressed from concrete behavioral responses to symbolic communication and gestures and finally to direct discussion of problems. Gladstone(49) working with youthful offenders expressed his own personality viewpoints, preferences, and idiosyncrasies in a deliberate effort to arouse and maintain interest and to establish some human and personal relationship with the patient. He took on the active challenging parental role as well as the accepting one. Bromberg(50) suggested that psychodrama, particularly the technique of role-reversal, might be effective preventative therapy against the precipitation of violent crime.

The Wisconsin Sex Crimes Law which provides for outpatient or in-residence treatment for sexual offenders has now been in force for 10 years. Pacht, Halleck, and

Ehrmann(51) present a 9-year report of its practical implementation as well as the therapeutic and medical ethical problems it raised for the participating psychiatrists. They believe the program has improved the treatment opportunities of the disturbed sexual deviant. Uehling(52), conducting group therapy in this program, underlines the paradox of the therapist who permissively elicits information and attempts to make an objective presentation to a review board. Since the sex deviate must respond to some form of treatment as a condition for his release, assessment of progress is complex. Kopp(53) as well as Cabeen and Coleman(54) had some success with the treatment of sex offenders by group therapy. The prognosis was better for sex deviates with a diagnosis of psychoneurosis than for the psychopathic personalities.

Margolis, Krystal, and Siegel(55) report "modest but steady" success with poorly motivated alcoholics with an active treatment program which includes deliberate confrontation and anxiety arousal as well as participant involvement in legal, social, medical and familial relationships when indicated. Similarly, Chafetz, *et al.*(56), were able to improve the initial visit and sustain treatment rate for alcoholics by such techniques as participant involvement in their social care. Behavioral adaptation is by no means synonymous with mental health. Gerard, Aeanger and Wile(57) found that formerly confirmed alcoholics could maintain abstinence in spite of serious mental disturbance. That these therapeutic innovations may be relevant to a wider range of behavioral problems is demonstrated by a report by Guze, *et al.*(58), that in a representative group of over 200 criminals almost half were alcoholics.

O'Reilly and Reich(59) and Jensen(60) found LSD increased the improvement rate of alcoholics significantly. Kraft reported favorable results with mephenozone in the treatment of childhood behavioral problems, including hyperactivity and school truancy when associated with an EEG pattern of 14 and 6 spikes per second(61).

A new case book on criminal law by Donnelly, Goldstein, and Schwartz(62) incorporated psychiatric and sociologic views, and a compendium on legal and criminal

psychology was published (64). The *Annals of the American Academy of Political and Social Science* devoted an excellent issue to "Crime and the American Penal System" (63).

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ADMINISTRATIVE PSYCHIATRY

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The administrative psychiatrist is increasingly interested in integrated programs with flexibility to meet the present and future needs of the mentally ill and their therapy. Inpatient care is but one element in the continuum of facilities; it should be personalized, utilizing small local facilities if possible(1).

With more intensive treatment and diversification of psychiatric facilities, a declining hospital population is predicted by Barton (2). Studies from New York reveal that the number of hospitalized mentally ill continues to fall, particularly for the younger schizophrenic age groups. Brill and Patton expect that by 1970 from 6%-19% fewer beds will be needed than in 1960(3). The present need for beds in England using integrated psychiatric services is 1.8 per 1000 for the mentally ill, according to Maclay(4). Approximately half these beds would be for prolonged treatment (more than 2 years), one quarter for median stay (3 months to 2 years), and one quarter for short term treatment (less than 3 months). His prediction that in 1974 less than half the beds in use in 1959 will be needed has been questioned. Barr and Parnell(5) found that in the Oxford area admissions and readmissions rose as the resident population decreased; they feel that the two main factors, drugs and vigorous outpatient treatment policy, may be temporary. A cohort study of three London hospitals showed that first admissions for affective disorders, but not for schizophrenics, increased markedly from 1951 to 1956; readmissions increased in both categories.

Each readmission tended to be longer. Indeed 25% more beds were needed to serve the 1956 cohort, 1 to 3 years after admission (6).

Jones and Sidebottom(7) point out that the reduction in long stay patients over the past few years may not be easy to replicate with hard core patients and increasing psychogeriatric cases. They note that for 60 hospitals with day care centers no more than 1,500 patients are cared for and that the actual cost of running such centers is greater than estimated. They also argue that from an economic point of view dispersal of personnel in a variety of community settings may be more expensive and less efficient than concentrating them in one physical plant such as a mental hospital.

Very little relationship between length of hospital stay and symptoms of illness was demonstrated in a study of male schizophrenics under 60, hospitalized more than 2 years, but there was a positive relationship between length of stay and apathy about life outside the hospital. The authors concluded that "institutionalism" is an important factor in long stay patients but that "deterioration" (increasing clinical deficit) cannot be demonstrated after 2 years. They argue thus that multiple admissions of short duration "have a beneficial effect in preventing the secondary handicaps of institutionalism"(8).

The number of reports supporting open door policy and therapeutic community are too numerous to catalogue. Littlemore Hospital describes an open door policy on a disturbed ward for both sexes(9) and Fairhill Hospital, a female ward where patients take responsibility for their own medications, offers free access to the ward

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nursing office and telephone(10). One study which determined the patients' viewpoint about therapeutic factors offered by closed wards reported that 45% of the patients felt that the protection and control afforded were the two most significant factors in their recovery. Because of these positive aspects of the closed doors, caution is recommended before they be abandoned (11).

There has been a substantial rise in voluntary first admissions in the United States, both absolute and percentagewise. However, it is still far below that in Europe and particularly in England. Unfortunately, though court commitments in 1961 had declined from those in 1956, they still accounted for the largest percentage of first admissions(12).

Large psychiatric hospitals are being broken up into units. The advantages and disadvantages of the autonomous unit system at the Ontario Hospital are described after a year of experience(13). At the Towers Hospital 300 bed units are under the full clinical responsibility of a consultant psychiatrist which the new Mental Health Act of England permits because it relieves the medical superintendent of responsibility for the clinical treatment of any patient other than those personally under his care. Kidd states that ideally these 300 bed units should be staffed by two consultant-level psychiatrists and four other physicians(14). A Moscow mental hospital adheres to the unit system(15). The organization of Fort Logan State Hospital with continuity-of-care teams serving patients from a geographical area regardless of treatment locus (inpatient, day and family care, etc.) is described by Lewis and Kraft(16).

Opening psychiatric units to other psychiatrists and physicians is increasing. At least two state hospital systems have done this in the last year (Delaware and Washington). The administrator of a private psychiatric hospital feels it contributes to better care, community education, and greater effectiveness(17). A general practitioner and psychiatrist described how the former treated his own patients using two beds on a psychiatric ward of a teaching general hospital(18).

The importance of general hospital psychiatric units is well accepted. The Veterans Administration has admitted to 5500 beds in its general hospitals as many patients as to 55,000 beds in neuropsychiatric hospitals and feels that its new hospitals should be full service hospitals with about 500 medical and surgical beds and about half as many neuropsychiatric ones(19). Studying 100 consecutive admissions to a psychiatric hospital, Cahn concluded that in a large city such as Montreal, with excellent facilities in several general hospitals, there is a need for the services of a mental hospital, not only for those never considered for treatment in a general hospital but also for those who had already been treated in that type of unit but whose physicians considered a psychiatric hospital preferable(20).

An excellent review of the history and current status of day hospitals states: "The experience of this hospital [Massachusetts Mental Health Center] and that of other psychiatric institutions tempts us to conclude that the Day Hospital is potentially the major primary psychiatric facility of the future"(21). McNichol of Louisiana(22), Ryan, *et al.*, of Newfoundland(23), Bierer of England(24), Cowen of Chicago(25), report favorably on this type of unit, as do Shaw and MacMillan for the geriatric patient(26) and Pfaitz for the adolescent(27).

Halfway houses were found by Harbert and Taylor to be good testing ground for certain types of patients, though somewhat overvalued therapeutically(28). Quiet chronics respond better in this facility than do schizoid paranoids(29).

The Nova Scotia Mental Health Plan successfully gets psychiatrists out into the rural communities where they work in general hospitals(30).

The book *Frontiers in General Hospital Psychiatry* will interest most administrative psychiatrists because it covers many areas of interest to them other than what its title might imply, *e.g.*, Mental Health Service in Denmark, The Impact of the General Hospital on the Private Psychiatric Hospital (31).

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MILITARY PSYCHIATRY

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The publications on military psychiatry this year reflect no special trend but cover the range from selection through treatment to post-service observations.

The least well-understood variables in selecting Army officer candidates were those of personality and motivation, according to Garrett and Tierney(1). To determine if the MMPI would give any value in clarifying such personality and motivation variables and in predicting success of candidates at OCS, the following study was conducted. For a 3-year period candidates already accepted for OCS by the existing methods were given a routine MMPI during their first week of training. Answer sheets were then used for later comparison with the performance of the tested candidates. In the process of training, certain candidates were dropped from OCS as being unsuitable because of lack of motivation. This

was referred to as "Motivation-Loss Group." Certain other candidates were dropped temporarily from their original class but allowed to start with a succeeding class and eventually did graduate. This was referred to as the "Turn-Back Graduate Group." Other candidates completed their course in the minimum possible time. This group was referred to as the "First-Time Graduate Group." Initially samples of 33 Motivation-Losses and of 45 First-Time-Graduates were studied. The MMPI's of these candidates were subjected to item analysis. A scale of 36 items was derived. The items were scored so that high scores were indicative of high motivation for completion of training. The motivation scale was then cross-validated. The data were analyzed by constructing composite profiles for each of the three types of candidates studied. Further, profiles of all of the candidates were analyzed in terms of elevation and code type to determine general characteristics of offi-

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cer candidates and whether or not there was any relationship between these data and subsequent performances in training. Findings were as follows: 1. Specific Motivation scale derived for the MMPI did not specifically discriminate on cross-validation between people who had completed training and those who were dropped because of lack of motivation. 2. Composite profiles were not significantly different for the three samples. 3. Profiles when individually examined tended to show more similarity than differences in the three samples. 4. When elevation of particular scales, especially subtle and obvious scales, was studied, it was found that there were significant differences on certain MMPI scales indicating that graduates tended to be somewhat healthier psychologically than those who were dropped because of lack of motivation.

Nardini and Herrmann(2) discuss the Navy psychiatric assessment program in the Antarctic. During the establishment of initial Antarctic bases immediately preceding the International Geophysical Year, the Navy expedition had one man who developed a psychosis and because it was impossible to evacuate him, the management problems were very great. As a result of this incident, a psychiatric assessment program was begun and included all personnel, military and civilian, who were scheduled to winter over during the IGY. The bulk of the data accumulated was analyzed by the staff of the U. S. Navy Medical Neuropsychiatric Research Unit, San Diego, Calif.

All personnel assigned to duty in the Antarctic program were volunteers selected on the basis of military or civilian specialty training. More than half were over 25 years of age and almost half had more than 6 years of service. Each man was given an unstructured psychiatric interview, a Rorschach test, and four primary areas were used to determine the psychiatric suitability for the Antarctic program. These areas were: 1) motivation, 2) history of past personal effectiveness, 3) present ego strength and adequacy of defense mechanisms, and 4) adequacy of interpersonal relationships. Those who showed no obvious defects or weaknesses in these four areas were considered sufficiently stable to adjust in the Antarctic—or for almost any program

of this nature. Four sources of criterion data were built into the research design: peer nominations, supervisor performance ratings, medical symptoms check lists, and debriefing interviews with personnel at the completion of the wintering-over experience.

During the 5-year history of the assessment program there were no documented cases of psychotic illness. It is felt that the program was effective in identifying and eliminating individuals who would develop emotional illness under the stress of isolation.

The most important variable in adjustment to Antarctic isolation now is considered to be vocational effectiveness. Structure and composition of the small isolated group is next in importance.

In a one-year study of the diagnoses of referrals to Mental Hygiene Consultation Services, Ryan(3) found that only about 6% were diagnosed as psychotic or neurotic. The remainder consisted of individuals who were referred because of inadequate or inappropriate performance of duty. Three types described were escapist, the reluctant soldier, and the bewildered soldier. For these the problem is most appropriately classified as a social problem. Constructive utilization of the forces within the soldier's environment is made. Brief contacts were fully utilized with the patient and with those important to him—the primary means by which an adjustment is effected. An atmosphere is created and maintained in which the soldier can see only successful adaptation to his environment as a solution to his problem. The soldier must discover an attitude of unconditioned expectancy that he will adjust to the situation. In such an atmosphere, if a psychiatric diagnosis is ruled out, the soldier is told that he is not regarded as sick. The brief contact consists of recognizing with the soldier that he does have a problem, that someone from the MHCS will help him to understand it and solve it, and that the whole procedure will not take long. The process may involve listening, explaining or interpreting, both with the serviceman and others in his command. Upon occasion it may require request to command to reassign or otherwise to alter a situation which seems to be

creating undue stress. In certain instances it may require enlisting the assistance of parents or other authority figures to reinforce the soldier's motivation. The brief contact may require a conference with the immediate commander, first to understand his point of view in relation to the problem and, second, to offer guidance to the commander in his effort to find a constructive solution to it. Another approach with command is by conference with groups of Unit Commanders to discuss ways of dealing with the various kinds of problems. Focus is not on the individual soldier but on the social situation in which difficulties with individuals may arise. The MHCS may initiate recommendations to command in relation to policy considerations. The emphasis is on constructive solutions to the problems in terms of utilization of personnel rather than discharge.

Ginsburg(4) writes of the treatment of the problem drinker in an overseas theater by the general medical officer. He notes that the general medical officer can successfully treat the problem drinker on an outpatient basis when the therapy is based on a medical regimen and special attention is given to the doctor-patient relationship. The medical regimen is centered on the treatment of co-existing physical disorders so often found associated with chronic alcoholism. The use of vitamins, dietary measures, and tranquilizers can be considered. Antabuse is a significant advance in the clinical treatment of the problem drinker provided that it is used only after the physician has become thoroughly familiar with its indications and contraindications. Acceptance of the drinker as a man with a problem deserving medical attention instead of condemnation serves as a boost to his self-esteem. The physician must respect the patient's sensitivity and exaggerated pride permitting him to use devices he finds necessary to make seeking treatment acceptable. At the same time, the drinker is expected to assume a large degree of responsibility for his participation in the treatment program with absolute abstinence as his goal. He stresses the follow-up as an important aspect in the program.

Grold and Hill(5), in order to ascertain the true reasons for failure to keep appoint-

ments, reviewed the records of a division psychiatric section for the first six months of 1961. The study indicated that the reluctance to take advantage of psychiatric assistance is related to the individual and group images of the psychiatric section and psychiatric patient. They found that misconceptions about psychiatric patients and psychiatry are derived from a variety of fears, attitudes, and unrealistic expectations of the individual patient, the referral sources, and the patient's unit, which can and do conflict with one another. Through an increased exchange of information between the psychiatric section, the units, and referral sources, misconceptions and distortions were reduced. Mutual problems were identified and possibilities for cooperation explored. As a result of the study a more intensive educational program was developed with an increase of primary contacts with sources of referrals and units within the division. The authors conclude that consideration must be given to the forces outside of the psychotherapeutic process which impede the use of available psychiatric assistance. After the program was instituted, in spite of a doubling of the case load, the missed appointments were reduced to one-half of the original number.

Anderson and Lauterbach(6) attempted to gather information which would clarify common impressions among psychiatric staffs of military hospitals concerning the frequency of expectancy of psychiatric breakdown: 248 consecutive male enlisted psychiatric admissions to Walter Reed General Hospital were compared with the current population as to age, rank, and length of service, first by total number of cases, then according to the main diagnostic subgroups, psychotic reactions, and character and behavior disorders. It was found that there was a disproportionate number of patients in the grade of private, suggesting less than average success of this group as soldiers prior to hospitalizations. Differences from parent population in terms of age and length of service were found to be of less magnitude and in the case of the psychoses, not statistically significant.

Mack(7) lists principles to guide the selection of psychiatric patients for return to the United States from overseas areas

based on his experience as a psychiatrist at the USAF Hospital at Tachikawah, Japan. He stresses the importance of establishing sound criteria for returning patients because of the great significance of air evacuation for the psychiatric patient, his family, and the military community. The indications he lists are as follows: 1. Unrelenting anxiety or other emotional pain beyond the capacity of the individual to manage even with appropriate therapy. 2. Inability to perform the military duties or handle household responsibilities. 3. Continuing taxation or draining of local medical facilities beyond their resources. 4. In the case of dependents, interference with the sponsors' discharge of his military duties as a result of the neurosis.

He points out the fact that as the number of psychiatrists available to treat patients increases, the number of patients evacuated from overseas is decreased. While recognizing the necessity for the "medical-administrative split" which makes patients in the character-behavior disorder group ineligible for air evacuation, he believes that the practical necessity of such a split from the military standpoint should not be allowed to obscure its artificiality but to spur research aimed at understanding and helping these patients.

Nardini(8) served 3½ years as a prisoner of war of the Japanese in World War II in the Philippine Islands and in Japan from 1942 to 1945. Having worked as a psychiatrist on active duty in the U. S. Navy for the subsequent 15 years, the author has undisputed knowledge of the problems of the prisoner of war. He explains that most POW's are unable to explain their emotional reactions. The POW feels that he has lost prestige, he is confused, bewildered, and has a sense of unreality; he feels helpless, defenseless, shame, guilt, belittlement and failure—even though he has not given up as an individual but has surrendered as part of a unit. All the conditions that man would prefer not to have happen to him can and do happen when he becomes a prisoner of war—cold, heat, starvation, insects, monotony, inadequate clothing, foul odors, physical and moral abuse. Ability to withstand such punishment is not universal.

The death rate is high in the first six weeks of imprisonment. The young and

weak of spirit are first to die. To survive, the individual must "develop a philosophic, fatalistic but non-defeatist attitude and intense application of life's energies to the present." He needs a sense of humor, tact, moral courage, ability to manage hostility and fight depression . . . he needs "enough inner resources to last out a long drought of outer stimuli."

Physicians as prisoners of war in the majority possessed those better integrated and adjusted qualities. The physician must care for mortally ill patients with no effective medicine and no supportive care. He recognizes deficiency and other diseases which lead to death in a prescribed period of time and finds the same symptoms developing in himself. Emotional disorders are related to apathy, withdrawal and depression. Schizophrenic reactions and suicides are less than average. Dr. Nardini tells of his attempts to care for 100 seriously ill men housed in a bamboo shack, and the amazingly surprising effects of placebo remedies which he describes as just short of miraculous.

Brain-washing is much misunderstood and there is unnecessary concern over this method of influencing men's minds. He suggests that we should "train and lecture loyalty to our forces" and inform them that the best is expected of them, but we must realize that many will fail under the pressure no matter what we demand. There is lack of realism in regulations that require a POW to give no information other than name, rank, and serial number. "Universal heroism cannot come to pass," Dr. Nardini says, and concludes by saying ". . . in the future we might gauge the index of man's humanitarian growth and gain by the manner in which he is able to rise above his more basic cruel animalistic impulses as reflected in his treatment of prisoners of war."

Schneck(9) reported on four patients who, while under psychiatric treatment, revealed that during military service or on induction they had deliberately feigned psychological symptoms. In the course of treatment they found that they had, in fact, without being conscious or aware of it at the time, suffered the very distress they had believed they were falsifying. The author

concludes that this appears to reflect curiously a self-exclusion component of ego-functioning. He considered the behavior to lie in the border between malingering in its general acceptance as a manifestation of a personality disorder and hysteria. In his opinion, psychodynamically, the elements in pseudo-malingering are essentially hysterical. The maneuver is an emergency device to maintain the integrity of the ego. It is an attempt to deny the illness by the expedient of claiming illness. The circumstances involving avoidance of military service were sufficiently dramatic to highlight the reactions and to prompt special focus of attention on them. He concludes that pseudo-malingering is probably far more widespread and its characteristics more subtle than indicated by his patients. He recommends additional attention and investigation.

The *Index Medicus* for 1962 lists a number of articles dealing with military psychiatry from countries other than the United States (10-16).

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PSYCHIATRIC EDUCATION

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Frequently, in past years, we have called attention to the pessimistic picture of a future where medicine will be less and less able to meet human needs because of manpower shortages. It is gratifying this year to take a more optimistic view and note the impressive progress being made in facing the needs for increasing numbers of doctors. New schools of medicine have been opened recently at Yeshiva University, the University of Florida, and the University of Kentucky. A two-year school has been developed at the University of New Mexico, and two- or four-year schools are authorized, or about to be authorized as follows: the University of California (San Diego), the University of Texas (San Antonio), the University of Connecticut, Michigan State University, the University of Arizona, Rutgers University, and Brown University. The

possibility of other new schools is being seriously considered in New York, Ohio, Maryland, Delaware, and Hawaii. The feasibility of a regional school of medicine sponsored by Nevada, Idaho, Montana, and Wyoming is being explored. Thus, we are moving closer to the creation of 20 new schools that was advocated by a number of surveys 5 to 10 years ago (1).

Faculties have also expanded markedly in medical schools during the last decade. Despite the great increase in medical students during the last 10 years, the total medical school faculty available for teaching has increased proportionately at an even greater rate. Total faculty (full and part time) has increased more than 100% between 1951 and 1960 (2). Full time teachers constituted 25% of faculties in 1951 and 31% in 1960. The percentage increase of students and trainees in American medical schools during this 1951-1960 period is also interesting: medical students—17%, graduate

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students—9%, interns and residents—168%, and others (dental, nursing, technicians)—19%. The percentage increase in full time faculty during this period was 176% and was interestingly greater in the clinical fields than in the basic science fields (214% vs. 124% increase). Another significant growth was in Ph.D.'s in the clinical departments—an increase of 498%.

A survey of the literature in medical education during the year, however, indicates sources of serious concern. One area receiving particular attention is the increasing emphasis in medical schools and teaching hospitals on research activities to the detriment of teaching and patient care. Ruesch(3) points out that the tremendous increase in research funds has drawn clinicians over into research and attracted non-clinicians into medicine to the extent that we have fewer people taking care of patients or learning how. He calls attention to the twenty-fold increase in research funds in the last 15 years and suggests "mediocre research and the concomitant neglect of clinical training have put the population in double jeopardy."

Cummins in his presidential address to the American Ass. of Anatomists, entitled "The Golden Age of Research and the Price We Pay For It"(4), views with real concern the "trend toward subordination of teaching" and indicates that unless this is arrested, "the operation of our schools will become a travesty on medical education, and this in the face of compelling reasons for the training of more and better physicians." In terms of correcting this situation, Ruesch(3) makes the following suggestion: "Clinicians with teaching ability and medical skills should be at the head of clinical departments in hospital divisions. Only when students and residents are provided with models of clinical excellence in responsible positions does effective learning take place." Cummins places the corrective responsibility on administration and faculty in the following manner: "University presidents, deans, and faculty should unite to re-establish the honored and essential role of teaching in the university scene."

De Takats(5) underlines the same problems of research-teaching imbalance in the university-affiliated hospital. "What needs

to be examined is whether or not the running of clinical departments by research professors or medical educators can be kept in sufficient balance for optimum care by the medical staff."

It has frequently been suggested to these reviewers that more emphasis be put on reported advances in medical education abroad. Unfortunately, the increased volume of reports in the American literature with marked improvement in their quality makes this increasingly difficult. For those particularly interested in a comprehensive review of medical education around the world, we call attention to a 200-page survey of medical education abroad in the *Journal of Medical Education*(6).

Undergraduate Medical Education. The Associate Dean of the Johns Hopkins School of Medicine has looked searchingly at the basic medical sciences in relation to what he calls "The Revolution in Biology"(7). He points out the tremendous progress that has been made in molecular and sub-molecular biology, calling attention particularly to new knowledge about DNA and its relation to cellular processes and genetics in particular. He raises serious questions as to whether medicine is sufficiently flexible to accept and utilize this new knowledge. He believes major revisions in medical thinking and educational structure will be necessary if this new knowledge is properly incorporated in the basic sciences and communicated to the medical student. "To my mind, medicine has little choice but to remain a progressive branch of biology. The alternative is a biological society divided into two cultures: science and medicine. The next fifty years could see our once proud profession degenerated to a second rate technology, fostered by a second rate educational system and practicing second rate medicine"(7).

While biology has made more dramatic advances in the last two decades than psychology and psychiatry, advances in our field have been substantial. The applications of basic molecular biology to our field will soon be upon us to properly integrate and utilize. Much careful thinking must be done to incorporate dynamic psychiatry and psychology within the basic medical sciences curriculum for medical students. All too

often, our efforts have consisted of rather anemic and disjointed lectures on personality development, interspersed at weekly intervals in the freshman and sophomore curriculum.

Largely in response to the final report of the Joint Commission on Mental Health and Illness (*Action For Mental Health*), the AMA convened an extensive 3-day Congress on Mental Illness and Health. In preparation for this a Preliminary Program Conference on Mental Illness and Health with 175 distinguished professional leaders in attendance was held in late 1961. From this evolved the program of the AMA Council on Mental Health. Vital to this program were certain recommendations in terms of psychiatric training of medical students. The document strongly recommended more extensive and specific curriculum development around practical aspects of the doctor-patient relationship, as well as special emphasis on alcoholism, drug addiction, juvenile delinquency, mental retardation, family dynamics, and special emotional problems of children and the aging.

The Training Branch of the NIMH reported on an effort to improve and extend the training of medical students in psychiatry through the offering of stipends for extra curricular training(8). This program has been set up to enable selected students to obtain additional clinical and research training as part of their general medical preparation. It is hoped that this will interest more medical students in psychiatric specialization. During the period from 1957 to 1960, 2216 medical and osteopathic students received these stipends. The next few years should tell whether this program has had a significant influence on these students' professional specialization and orientation toward psychiatry.

As in past years, many reports appeared dealing with new techniques and programs for presenting both basic and clinical psychiatry to medical students. Only two representative items will be noted. The University of Missouri reported on a field trip program in psychiatry for senior medical students as one of the unique developments in this new department of psychiatry (9). As a way of introducing the senior student to his psychiatric patient's home

milieu, he accompanies the psychiatric social worker and/or psychiatric nurse on visits to the referring local doctor, the community agencies involved with the patient, and to the patient's family itself. The results of these trips are tied together on return to the medical center in conferences with supervising ward staff.

Ward(10) reviewed an interesting technique by which the instructor may directly supervise and coach the medical student in diagnostic and therapeutic interviews with patients. The teacher views the patient and student through a one-way mirror or closed circuit TV and can communicate directly with the student during the interview through an unobtrusive earphone device. The patient is informed of this initially, but the prompting is done without obvious interference. It has resulted in effective supervision in beginning psychotherapy and is well received by students and patients.

House Officers' Education (Interns, Residents, Fellows). The latest *Health Manpower Source Book*(11) indicates that from 1950 to 1960 approved residency programs increased by 70% (for all specialties). For psychiatry the increase was 109%; surgery residencies increased 41% and internal medicine 47%; 82% of all residency positions were filled in 1960 in psychiatry, as compared with 93% in surgery, and 89% in internal medicine. The foreign medical graduate continues to be a significant participant in residency training in the United States with 24% of all residency openings in all specialties filled by foreign medical graduates. Psychiatric residencies were 19% filled by foreign medical graduates as compared with 26% of surgical residencies and 23% of internal medicine residencies filled by such graduates. For those interested in results of the first four years of activity of the Educational Council for Foreign Medical Graduates, may we refer you to the *Annual Report* for 1961(12). On this basis of the eight examinations given so far, approximately 62.5% of foreign graduate candidates have qualified on their ECFMG examinations. It was feared when the ECFMG system went into effect that this would drastically cut down on the number of foreign graduates training in the United States. Interestingly, this has not been the case. In 1961 there

were over 3500 foreign medical graduates who took the examination in foreign centers and obtained certificates. If all these certified candidates come immediately to internships or residencies in U. S. hospitals the inflow of *certified* foreign graduates will be greater in 1962 than the inflow of *uncertified* foreign medical graduates in 1957 (approximately 3300) (12).

In line with the conclusions of the Joint Commission that the main unfinished business of psychiatry is treatment of psychotic individuals, a number of critical looks have been taken at much of current psychiatric residency training in the United States.

Felix (13) has written concerning the implications of goals of therapy. He suggests that we stop looking at deep, long term psychotherapy as the ideal or only real goal for psychiatric treatment and that "without feeling guilty, we state our primary goal to be to return as many of our patients as possible to social usefulness." He underlines the lack of emphasis in many programs on training residents to care adequately for psychotics and to be able to function effectively in a hospital setting.

Eisenberg (14) in a major address at this year's American Orthopsychiatric Ass. meeting says that no residency program should be considered adequate that does not provide substantial experience in community and public hospital psychiatry. He is also critical of training in child psychiatry which does not give the resident or fellow adequate experience in dealing with chronic brain syndrome and mentally defective children. He calls for more emphasis in training programs on the physiological, biochemical, and sociological determinants of behavior.

Two reports from Oregon present specific programs relevant to the teaching of social psychiatry. Saslow (15) indicates that the individual, intra-psychic approach is so often inadequate and that many senior staff psychiatrists have not yet learned how to deal with people in groups, continuing "their over-emphasis on feelings, thinking, and behavior on an individual basis." Of particular interest is his report on the joint training of psychiatrists and psychologists. They share many ward functions, both as individual therapists, group therapists,

teachers of nurses aides, and as team leaders. High mutual regard appears to exist between psychiatrists and psychologists trained in this joint manner. He emphasizes the importance of ward meetings as a teaching experience. Jones (16) also outlines some of the techniques in training for social psychiatry at the ward level.

One of the very exciting training programs in community psychiatry is that carried on by the State of Maryland in conjunction with the two medical schools, private and state hospitals, and local health departments. Local mental health programs in 13 of Maryland's counties are staffed by 16 psychiatric residents representing six training institutions. These residents each spend one day a week as consultants to the local health officers of the county and serve as psychiatric staff members of the local mental health program. The program is well supervised and theoretical aspects of public health psychiatry are discussed in weekly seminars, conducted by Dr. Paul Lemkau at the Johns Hopkins School of Hygiene and Public Health. The emphasis is on the operating and supervising of a program in community psychiatry rather than a direct outpatient treatment service (17).

A pioneer endeavor in introducing psychiatric residents to community mental health and the public health aspects of psychiatry was organized by Dr. Lucy Ozarin and the Region VI staff of the USPHS Regional Office in Kansas City, Mo. in Mar. 1962. Twenty-seven residents from various training programs in the 7-state area were brought together at PHS expense, for a week long workshop. Many of the residents noted that this opened up entirely new areas that they had not encountered in their years of residency (18).

A Cincinnati group reported on the training value of the "Wednesday Afternoon Clinic: A Supportive Care Program" (19). The clinical program is set up to care for the so-called "poor" therapy cases, generally psychotic or severe psychoneurotics, through brief, not too frequent contacts for supportive interviews and medication. The residents have learned techniques of dealing effectively and helpfully with patients that cannot appropriately be treated by more

intensive psychotherapeutic relationships. While this is not particularly unique, it is rare in the literature to find a description of a systematic training and treatment program to equip the psychiatrist for this important aspect of his work.

Gitelson(20) gives an excellent historical review of the importance of psychoanalytic knowledge in the psychiatrist's training and indicates that the analyst can participate in such training basically in his capacity as an "enlightened psychiatrist."

Continuing Medical Education. As a result of the Joint Commission's report and other developments, more interest was generated in this area than in any comparable period in the past. An editorial in the *J.A.M.A.*(21) spoke of this as the "undeveloped frontier" of medical education and notes that this field is in a much more primitive state than undergraduate and resident training. The Council on Medical Education and Hospitals has announced an intention to appraise and accredit continuing education courses in the future much as it does intern and residency programs. We refer those interested to a summary report of the Joint Study Committee on Continuing Medical Education(22). This outlines the organization of an ambitious program for the continuing education of all physicians on a voluntary basis. The AMA this year lists 118 post-graduate courses in psychiatry, ranging from relatively prosaic titles such as "Psychiatry and General Practice" to more intriguing captions, "Psychiatric Aspects of Feminine Sexual Function," and "Body Involvement in Emotional Conflict"(23).

The AMA Council on Mental Health strongly recommended the expansion of post-graduate education on three levels: 1) relatively short courses for physicians without specialized psychiatric training, 2) more intensive training for non-psychiatrists in the management of well defined emotional problems, and 3) advanced courses for psychiatric specialists stressing improvement of the psychiatrist as a teacher in the foregoing programs and the strengthening of the psychiatrist's capabilities as a consultant to other physicians(24). The Council noted further that psychiatrists "should also be prepared to teach courses to candi-

dates in non-medical health professions"(24).

The NIMH in 1959 initiated a grant program for the support of psychiatric training of physicians engaged in the practice of medicine other than psychiatry. In 1960, \$385,000 was designated for the post-graduate education aspects of the program; 1,732 physicians participated in these programs, usually institutes, all day conferences, workshops, etc.(25).

Forman, *et al.* (26), reported on one such program, supported by the NIMH, where particular emphasis was placed on evaluating the effectiveness of teaching in a 12-week seminar type course in brief psychotherapy. More extensive studies of this sort are needed to ascertain whether these courses actually accomplish what we wish them to and whether they are worthwhile doing. An interesting description of another project of this sort in Brooklyn has been presented. Here, as in the above study, an informal round table approach seemed best. Interestingly, little response was attained from younger physicians with 85% of those present graduated from medical school before 1940(27). The recommendations of the sub-section of the AMA Congress on Mental Health concerned with post-graduate education strongly underlined the need for conducting this type of teaching around clinical material, having it patient and problem orientated rather than didactic or theoretical in nature. Small group seminars with continuity of instructors was strongly recommended. This group also recommended the post-graduate training of psychiatrists to make them more effective in this type of instruction and consulting work(28).

The shortage of capable and well trained full time teachers in psychiatry has been repeatedly emphasized. In 1956 the NIMH inaugurated the Career Teacher Program in an effort to provide more and better qualified teachers. Grants were made on an annual basis to those interested in pursuing psychiatric teaching as a career. Between 1956 and 1959, 43 appointments were made in psychiatry. It is believed that this program has kept a significant number of capable people in the teaching area(29).

Two rather extensive reports on psycho-

analytic education came out in 1962. One was a publication of a selection of papers presented at the annual meeting of the American Psychoanalytic Ass. on its 50th anniversary. An historical review by Bertram Lewin is presented, as well as a review of the development of the Association's program with establishment of C.O.P.E.—a standing committee of the Association on psychiatric education(30). Masserman edited a larger monograph on psychoanalytic education at the behest of the American Academy of Psychoanalysis with contributions from many of the current leaders in this field(32).

For those interested in setting up or participating in training programs in hypnosis, the report of the Committee on Training in Medical Hypnosis of the Council on Mental Health of the AMA was published (32). An extensive outline of recommended courses with notes as to content, technique in teaching, size of classes, *etc.*, is presented. The Committee notes the great need for such training courses, properly conducted, and the almost complete dearth of systematic training currently in medical hypnosis.

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REHABILITATION AND OCCUPATIONAL THERAPY

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In reading articles currently in the literature, in talking to psychiatrists from various sections of the country, and in talking to

patients, one gathers now that the biggest problem facing psychiatry is that of the patient returning to the community from the mental hospital. In years gone by the idea of rehabilitation was more confined

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in scope, but at present it seems to cover anything that happens from the moment the patient enters the purview of psychiatry until he becomes an independent citizen outside the concern of psychiatric facilities. This widening of the scope of concern is apparently related to better medication, more open hospitals, and a more rapid turnover rate in all psychiatric hospitals, pouring more and more people back into the community. Since this step from hospitalization to resumption of community living is what rehabilitation comprises, we find ourselves reviewing more articles this year which have as their focus the individual mental patient vis-à-vis his community. Therefore, we have chosen as our focus the area of community mental health as it pertains to the field of rehabilitation. This is highlighted by Braceland's comment(1), "There is little use in giving the patient the advantage of the best in rehabilitation procedures if the family or the community will not receive him when he recovers." That this has become a very real problem is substantiated by Harrison's report(2) that "The extent of the readmission problem is apparent from just one set of figures for the state mental hospitals in 1959. In that year there were 175,727 patients discharged, but there were 80,344 readmissions to these same hospitals."

We have divided our reporting on publications which have come to our attention this year into several sections. The first of these covers the responsibilities of the hospital to the patient and the community. Noteworthy among this group is the article by Ananian and Biddle(3) reporting further on the experience of the Prep Shop at the Philadelphia State Hospital. The authors point out that the hospital can, through this means, supply industry with people trained in good work habits, and can give an evaluation of peoples' abilities to potential employers. In book form the studies done in Vermont by Chittick, *et al.*(4), give us the detailed experience of the Vermont State System in the program of evaluation in the rehabilitation of chronic schizophrenic patients. Denber and Rajotte(5) have given a description of the work therapy program in Manhattan State Hospital indicating the need for graded responsibility

in a factory workshop pointing toward eventual emergence into the community. They find it possible to operate such a program successfully without an increase in specialized personnel. Alberts(6) has described a project at the South Florida State Hospital in which patients are released to work in the community during the day and remain in the hospital at night. In a similar type of program(7), patients at the Brooklyn State Hospital leave during the day to work as volunteers for community agencies. The hospital staff assumes responsibility for evaluation and effective placement in community agencies. Friedman(8) tells of an interesting school program conducted at the Hudson Valley State Hospital by professional teachers who are hospitalized patients. Navran(9) reports on an analysis of failures in patients returning to the community from the VA Hospital in Sepulveda. Olshansky(10) points out the need for careful screening of patients prior to their admission into programs such as those mentioned above, so that the patients are not plunged into a competitive market above their capacities, with the risk of relapse. Wayne(11) discusses the problem of integration of aftercare facilities with hospitals, indicating that in his experience the parent hospital should maintain a close professional and physical link with the rehabilitation agency in order to give greater flexibility in moving out and back according to need. Barton(12) comments that the psychiatrist will probably play an increasingly less significant role in this transition and will be replaced gradually by a skilled rehabilitation team. Wolfe(13) feels that an important part of the hospital's responsibility is a professional vocational evaluation of the abilities of the patient in order to give the employer a sound reference. In Connecticut, Donnelly(14) reports the cooperative program of a state hospital and a visiting nurse association in which the nursing service, educated by the hospital staff, helps smooth the way for the post-hospital psychiatric patient. Fargher and his group(15) describe a rehabilitation program in the State of Washington through the coordinated efforts of the state hospital, local health department and the O.V.R. This latter report gives a good outline for those interested in organ-

izing such programs. The McLean Hospital, as announced by de Marneffe and Prekup(16), is opening up a new rehabilitation center which will be close to the hospital in order to combine the continued care and rehabilitation of patients with the training of psychiatric residents and student nurses.

The second section is concerned with transitional facilities standing between the hospital and the community. Bierer(17) wants us to distinguish carefully between the true day hospital as a separate entity and the treatment units contained within various other hospitals and rehabilitation centers. Coleman and Greenblatt(18) discuss the development and challenges of the day hospital and report on a study to determine the feelings of patients participating in day care. Pfautz(19) describes the new adolescent day care program at the Butler Health Center in Providence and discusses the functions of such a facility. A progress report has been published on the rehabilitation house in St. Louis, a cooperative project of the St. Louis State Hospital, the Missouri O.V.R., and the St. Louis Mental Health Association(20). This is a transitional residential unit for male patients who average some three months in residence. Wolff and Colacino(21) comment on the Minnesota follow-up study indicating that patients who lived in a foster home or boarding home during the transitional phase were rehospitalized significantly less than those who lived with their families. It is important to note that the VA reports it has gained the equivalent of four 600-bed hospitals through placement of recovering mental patients in foster homes during the past 10 years(22). In the excellent book edited by Greenblatt, Levinson and Klerman(23), 25 papers and discussions are included. These papers were presented at a conference on the problems of transition from hospital to community held in Boston in March, 1960, and cover problems in discharge planning, facilities used in transition, community influences and supports, family influences and supports, and the role of pharmacotherapeutic agents in the transition.

Our third grouping is concerned with the responsibilities of the community to the

hospital. Adrain(24) reports on the secondary school and college level training offered to patients at the Menninger Hospital. Bingham(25) describes the hospital "open house" intended to encourage the public to see what the hospital and patients are like and to share in the rehabilitation program. Mental health education in Massachusetts, reported on by Elbaum and Maloney(26), utilizes a psychiatric social worker and the publicity agent of the Department of Mental Health who, working as a team, interpret the state program to the public. An unusual program in Florida goes into action when a patient is committed to a state mental hospital(27). The Mental Health Resource Council of Hillsborough County, including 33 agencies of the county, combines forces to bring the patient back into the community, avoids duplicating the community efforts, and streamlines the community facilities for help.

The fourth grouping of papers is related to general community level concerns. The National Association for Mental Health held a Leadership Conference in Washington in March 1962(28). Top level representatives of government and professional organizations emphasized the need for increased public understanding of mental health problems and urged increased cooperation between community and professional groups. Ozarin(29) has published a review of Community Mental Health Legislation adopted in this country from 1954-1960 which shows the trend in recent years to be toward local controls with state subsidy. In that regard it was reported that funds budgeted for community mental health services throughout the United States during 1961 totalled \$91 million(30). Muth(31) has published findings of a study of community treatment facilities based on correspondence conducted with 48 countries. A major conference is represented by the book *Mental Health Teaching in Schools of Public Health*, which elaborates on the background and current facilities for training of community mental health specialists(32). A book by Nunnally(33) describes a group of studies designed to discover what the public knows about mental health and has many suggestions for those engaged in public education regarding mental ill-

ness. Ross(34) gives some valuable advice in an article dealing with the education of the family and the community to the needs of a mental patient in the convalescent period. Salkind(35) is concerned because, in spite of the various campaigns and committees, we are not reaching employers who might hire the psychologically handicapped individual. He suggests that a staff of trained public relations specialists with knowledge in this field might be successful in influencing employer attitudes. In the recently published proceedings of an important institute held in St. Louis in 1961, much emphasis is placed on this lack of understanding on the part of employers (36).

We have again dealt separately with the publications representing other countries. Huseuth(37) describes a new type of transitional facility in England which provides holidays for hospitalized patients. Harbert and Taylor(38) mention that records from an aftercare hostel will aid in evaluation of the returning patient, should rehospitalization become necessary. Day(39) emphasizes the need to allay unreasonable fears and refute misapprehensions in patients going into rehabilitative work. A report by Krapf and Moser(40) on a survey conducted by the Mental Health Section of WHO compares mental health facilities in different countries. It is especially interesting to note that halfway houses or sheltered workshops exist in all psychiatric hospitals in the USSR. Norway apparently has an experience similar to that in the United States as reported in an article by Davis(41). He states that more patients are being treated outside the hospitals than in the institutions. This calls for a new social philosophy toward rehabilitation to which the public is being awakened.

Occupational therapy continues to play an important part in psychiatric treatment, although the literature is not abundant. The reviewer senses a need for writers to assure the personnel working in the field of the great value of occupational therapy to the psychiatric team. Therefore, it seems important to call attention to a paper by Jantzen(42) which outlines some reasons why the occupational therapist plays such

a large part in the general treatment picture. This paper is backed up by the previously mentioned survey of the Mental Health Section of WHO(37) which reveals that occupational therapy facilities have been much extended in countries all over the world, especially in the last 10 years. The relationship between occupational therapy and psychiatry was the subject of a survey sponsored by the APA and reported on this year by Conte and Shimota(43). The survey shows that all who responded considered occupational therapy an effective treatment procedure for psychiatric patients, although opinions differed on the degree of its importance. It was suggested that poor communication techniques may cause the apparent lack of interest of some psychiatrists in occupational therapists' reports. The very new book by Linn, Weinroth and Shamah(44) gives one of the best discussions of the dynamic relationship between occupational therapy and hospital psychiatry published in several years. Also of note is the report by Morehouse(45) on the ceramic project at the Brockton VA Hospital which uses wages as a means of increasing motivation. Norton and Gaster(46) describe a program of progressive levels of work complexity from the ward to the occupational therapy center at the Central Islip Hospital. A youth program in progress at the Anoka State Hospital in Minnesota is discussed by Babcock, Dellvina and Azela(47) who find that adolescents are easier to treat when they are kept separate from other age groups. A preliminary report by Lawn(48) reports on the practical use in art work of designs that are symbols of human experience. A dynamic paper by Peck(49) discusses the development and management of transference to the occupational therapist. Of note this year is a study course for occupational therapists offered in Boston on the transitional programs in psychiatric occupational therapy(50). In October of 1962 the World Federation of Occupational Therapists held its third International Congress(51). Proceedings of this important meeting will be published under the title *Cultural Patterns Affecting Rehabilitation*.

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COMMENTS

QUACKERY

A recent issue of the *World Medical Journal* carries a special article on "The Problem of Quackery," containing brief reports from several European countries and from Australia and the Philippines as well.

Speaking for Denmark, Dr. Charles Jacobsen, past President of the World Medical Association, states that under a law passed in 1934, "a quack is subject to punishment only if it can be proved that his treatment endangered the patient's life or resulted in injury to his body or his health." Under these difficult conditions "quackery has flourished extensively." Nevertheless legal proceedings are taken in only one or two cases annually.

"Without doubt the most extensive field of quackery in Denmark is chiropractic . . ." It has been so established in the Danish courts. "Quackery flourishes," Dr. Jacobson states, "largely because the human being craves mystery and the supernatural and believes in it."

Although in France the law against quackery is rigid, Dr. J. R. Gosset, Associate Editor, W.M.J., states that there are probably as many quacks as physicians, one of the most valid reasons being "the great number of credulous people in the world." Quacks "practice openly and freely, with extensive newspaper advertising. They have recently organized as a 'National Group for the Defense of Free Medical Practitioners.'"

In the Netherlands Dr. A. P. N. de Groot is President of the Society Against Quackery, formed in 1881. He states, "Only about 300 out of thousands of doctors are members." This Society is apparently the only agency actively fighting quackery. It publishes a monthly paper exposing many kinds of frauds, encourages prosecution and gives public lectures.

"It is astounding—and rather humiliating," writes Walo Van Greyerz, M.D. of Stockholm, Chief Medical Officer of Civil Defence, "that in a country like Sweden, which might boast a certain degree of enlightenment, quackery still exists and even thrives."

An official 1951 report indicated that there were "about 500 persons dealing in some form of quackery . . . The number was certainly much higher . . . A new law defining permissible and forbidden practice by laymen came into effect Jan. 1, 1961, but it was considered that the time had not yet come for total prohibition of quackery.

In Australia, Dr. C. J. Ross-Smith, General Secretary, Australian Medical Association, reports that quackery is not a major problem, and that "all States excepting Victoria report that its practice is reasonably well controlled." The forms of charlatanism now more commonly practiced are "chiropraxis, osteopathy, hypnotherapy and, in Victoria particularly, the field of 'scientology.'" This latter cult, originating in America, "is regarded as a dangerous and near criminal activity . . . and the object of its technique is clearly to obtain a degree of dominance over the mind of the victim . . . [which] inevitably leads to the extraction of large sums of money."

It is thought that the restriction on advertising by any one not registered under a State Medical Practitioner's Act is largely responsible for limiting the spread of quackery in Australia, although in both Victoria and Western Australia there have been vigorous political campaigns to remove these restrictions.

Quackery is reported as a serious and continuing problem in the Philippines despite all efforts of the Philippine Medical Association to bring it under control. Drs. Romu Eldez and Ferrcol, reporting in the *World Medical Journal*, state that in addition to the "buyo-chewing midwives," herb-alists and faith healers, the most dangerous quack is the licensed practitioner who "employs fraud and deception in advertising his calling."

At a recent annual convention of the P.M.A. the subject of the meeting was "Quackery—the Scourge of the Nation's Health." It thrives for the same reasons that prevail everywhere: "(1) superstition;

(2) ignorance; (3) gullibility of the people; and (4) lax laws," with accent on the latter. However the Medical Act of 1959 has increased the powers of the Board of Medical Examiners and offers hope of reduction in the number of irregular practitioners in the islands.

The world-wide prevalence of quackery in the healing arts, the disturbing periodic

reports of the head of the F.B.I., and the other unpleasant doings of individuals in all social and political ranks that soil the pages of the daily newspaper—all this does not greatly encourage the optimists, if such there be, who dream of the perfectibility of the human species in the best of all possible worlds.

C. B. F.

It is impossible to foresee the future of science, particularly of psychology, . . . It may be that psychological causation can be freed from its present dependence on the body. But in the present state of psychology and physiology (1935), belief in immortality can, at any rate, claim no support from science, and such arguments as are possible on the subject point to the probable extinction of personality at death. We may regret the thought that we shall not survive, but it is a comfort to think that all the persecutors and Jew-baiters and humbugs will not continue to exist for all eternity. We may be told that they would improve in time, but I doubt it.

—BERTRAND RUSSELL

NEWS AND NOTES

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are Diplomates who successfully completed the Board examination given in October, 1962:

PSYCHIATRY

Alig, Vincent Boone, M.D., Indianapolis, Ind.
 Anderson, Paul Sanford, M.D., Mayview, Pa.
 Apolito, Arnaldo, M.D., Lyndhurst, N. J.
 Ardis, Mark Burkett, M.D., Downey, Ill.
 Baldwin, Albert E., M.D., Euclid, O.
 Barrett, William W., M.D., Salt Lake City, Utah
 Barron, Antioch R., M.D., Chicago, Ill.
 Bergmann, John Frederick, M.D., St. Louis, Mo.
 Bjornstad, Harry, M.D., Canton, O.
 Black, LaVerne Nelson, M.D., Cleveland, O.
 Blatt, Ronald William, M.D., Detroit, Mich.
 Blumenfeld, Neal M., M.D., Berkeley, Calif.
 Breakstone, Irving L., M.D., Miami, Fla.
 Burris, Boyd Lee, M.D., Washington, D. C.
 Capone, Antonio, M.D., Providence, R. I.
 Carnahan, Clarence E., Jr., M.D., Worthington, O.
 Carter, Donald Clayton, M.D., St. Cloud, Minn.
 Chamberlin, Cecil R., Jr., M.D., Topeka, Kan.
 Chang, Emilie V. C., M.D., Elizabeth, N. J.
 Ching, Alfred, M.D., Northville, Mich.
 Clancy, Jonathan Holt, M.D., Bala Cynwyd, Pa.
 Clark, Paul C., M.D., Bay Pines, Fla.
 Cohen, Sheldon B., M.D., Atlanta, Ga.
 Cook, Elwyn Curtis, M.D., Topeka, Kan.
 Coopersmith, Richard Connell, M.D., Reno, Nev.
 Coulter, Lawrence William, M.D., Rochester, N. Y.
 Dunlap, James R., M.D., Omaha, Neb.
 D'Zmura, Thomas Leo, M.D., Philadelphia, Pa.
 Eason, William M., M.D., Topeka, Kan.
 Egan, Merritt H., M.D., Salt Lake City, Utah
 Fieve, Ronald R., M.D., New York, N. Y.
 Firestone, Melvin P., M.D., West Palm Beach, Fla.
 Gay, Michel, M.D., Reseda, Calif.
 Goldberg, Salomea, M.D., Grand Rapids, Mich.
 Gottheil, Edward, M.D., West Point, N. Y.
 Grissom, Paul Manley, M.D., Sheppard AFB, Tex.
 Hackett, Thomas P., M.D., Boston, Mass.
 Hilkert, Fred G., M.D., Chevy Chase, Md.
 Hoffman, Frank V., M.D., Los Alamitos, Calif.
 Holder, William Lewis, M.D., Northville, Mich.
 Hoyt, Arthur W., M.D., Topeka, Kan.
 Jochimsen, Earl H., M.D., Sheboygan, Wis.
 Johnson, William Andrew, M.D., Sepulveda, Calif.
 Jones, W. Mitchell, Jr., M.D., Newton, Kan.
 Kohazi Bela, M.D., Long Island, N. Y.
 Koppa, John F., M.D., Madison, Wis.
 Krojanker, Rolf J., M.D., St. Louis, Mo.
 Lafave, Hugh Gordon, M.D., Harding, Mass.
 Laprevote, Francis A., M.D., Culver City, Calif.
 Levy, Edwin Z., M.D., Topeka, Kan.
 Lief, Victor F., M.D., New Orleans, La.
 Llinas, Jose J., M.D., Jackson, Mich.
 Lubin, Gerald I., M.D., Inglewood, Calif.
 Lum, Kwong Yen, M.D., Honolulu, Hawaii
 Mack, John Edward, M.D., Boston, Mass.
 Mamluk, Erich R., M.D., Long Island, N. Y.
 Martin, Lawrence W., M.D., Dallas, Tex.
 Mashikian, Hagop S., M.D., Nanuet, N. Y.
 McDermott, John F., Jr., M.D., Ann Arbor, Mich.
 McDevitt Robert John, M.D., Cincinnati, O.
 Ménétrez, Jean Hugues, M.D., Washington, D. C.
 Mooney, Francis L., M.D., Sheboygan, Wis.
 Morgenstern, Fredric V., M.D., Albany, N. Y.
 Nuernberger, Louis G., M.D., Lackland AFB, Tex.
 Ornstein, Anna, M.D., Cincinnati, O.
 Overley, Ross A., M.D., Zionsville, Ind.
 Padiatidakis, Nicholas, M.D., Raleigh, N. C.
 Phipps, John, M.D., Houston, Tex.
 Plaut, Eric A., M.D., Berkeley, Calif.

Rabe, Robert Emanuel, M.D., Huntington Woods, Mich.
 Reifman, Robert A., M.D., Chicago, Ill.
 Reinhart, Melvin Joseph, M.D., Ann Arbor, Mich.
 Reiss, Merrell D., M.D., Brookline, Mass.
 Rhame, Marlan LeVan, Jr., M.D., Eglin AFB, Fla.
 Rieger Norbert L., M.D., Camarillo, Calif.
 Rigg, L. Isobel, M.D., Philadelphia, Pa.
 Rimel, Warden M., M.D., Cincinnati, O.
 Rogers, Rita Ruth Stenzler, M.D., San Gabriel, Calif.
 Ryan, James Anthony, M.D., Washington, D. C.
 Schroeder, Gisela, M.D., Detroit, Mich.
 Schwartzberg, Allan Z., M.D., Shaker Heights, O.
 Schwarz, Marvin J., M.D., Chicago, Ill.
 Seno, Elvira C., M.D., Downey, Ill.
 Shattan, Samuel Phillip, M.D., Chicago, Ill.
 Siegel, Saul Marshall, M.D., Chicago, Ill.
 Slater, Victor L., Jr., M.D., Miami, Fla.
 Slawson Paul Fredric, M.D., Los Angeles, Calif.
 Smith, James Brainerd, M.D., Beverly Hills, Calif.
 Sorum, William Robert, M.D., New Orleans, La.
 Sullivan, Paul D., Jr., M.D., Washington, D. C.
 Thakor S. J., M.D., Bismarck, N. D.
 Van Besien, Maurice J., M.D., Baltimore, Md.
 Verwoerd, Adriaan, M.D., Durham, N. C.
 von Ruckteschell, Arno, M.D., Punta Gorda, Fla.
 Wallenstein, Harry G., M.D., New York, N. Y.
 White, E. Burton, Jr., M.D., New Orleans, La.
 Wixen, Burton Norman, M.D., Los Angeles, Calif.
 Wong, Edgar D., M.D., Toronto, Ont., Canada
 Wood, Horatio C., IV, M.D., Cincinnati, O.
 Wren, W. Wilson, M.D., Lansdowne, Pa.
 *Goldberg, Harold H., M.D., New York, N. Y.
 *Sagebiel, James Lambert, M.D., Dayton, O.

NEUROLOGY

Bevilacqua, John E., M.D., Drexel Hill, Pa.
 Downie, Allan W., M.B., Chapel Hill, N. C.
 Flynn, Robert E., M.D., Brighton, Mass.
 Gomez, Manuel Rodriguez, M.D., Detroit, Mich.
 Messert, Bernard, M.D., Madison, Wis.
 Morris, Charles Elliot M.D., Chapel Hill, N. C.
 Picard, Ernest Henry, M.D., Boston, Mass.
 Taylor, Richard A., M.D., Detroit, Mich.
 *Certified in Supplementary Psychiatry

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION.—The annual meeting of the Association will take place Feb. 22-23, 1963 at the Park Sheraton Hotel in New York City. The topic of the symposium is "The Psychopathology of Perception." Inquiries should be directed to Dr. Fritz A. Freyhan, Secretary, c/o Saint Elizabeths Hospital, Washington 20, D. C.

TRAINING IN CHILD PSYCHIATRY, HARVARD MEDICAL SCHOOL.—The Department of Psychiatry has been given a grant for a two-year training program at the combined facilities of the Children's Unit at the Metropolitan State Hospital in Waltham, Mass., and Beaver Brook Guidance Center in Belmont, Mass. The course has been approved by the Council on Medical Education of

the A.M.A. The program will be under the joint direction of Donald S. Gair, M.D., as Director of Training, Gertrude A. Rogers, M.D., Clinical Director, Children's Unit, and Carlos L. Hudson, M.D., Director, Beaver Brook Guidance Center.

VIIIth INTERAMERICAN CONGRESS OF PSYCHOLOGY.—This Congress will be held in Mar Del Plata, Argentina, April 2-6, 1963 under the auspices of the Dept. of Psychology, La Plata University. Central theme: The Professional Training and the Functions of the Psychologist. Active participants in the Congress must be members of the Interamerican Society of Psychology. For information write to: Dr. Samuel Pearlman, Brooklyn College, Brooklyn 10, N. Y.

APPLICATIONS FOR HOFHEIMER AWARD.—The American Psychiatric Association invites application for its annual Hofheimer Prize Award (\$1500) for outstanding research in its field. Applicant must be a United States or Canadian citizen not older than 40, and can be any professional person who has done creative research relevant to behavior. (In a research group the majority must meet the citizenship requirement and their median age must be not more than 40.) The Award applies to work published within the past 3 years. To apply: Submit eight copies of published work and data concerning age and citizenship by March 1, 1963, to Eugene Bliss, M.D., Chairman, Hofheimer Prize Board, 156 Westminster Ave., Salt Lake City 15, Utah.

THE MISSOURI INSTITUTE OF PSYCHIATRY.—The Institute of Psychiatry at St. Louis State Hospital was formally dedicated by Governor John M. Dalton and opened for service Oct. 22, 1962. It is housed in a new \$6,000,000 building named in honor of Louis H. Kohler, M.D., the hospital's superintendent. It has the unique distinction of following the recommendation found in *Action for Mental Health*, the final report of the Joint Commission on Mental Illness and Health relating to the need for research and training institutions located on the

grounds of a public hospital and affiliated with a university.

Dr. George A. Ulett, Acting Director, Division of Mental Diseases, appointed Dr. Max Fink as director of the teaching and research program.

Jack R. Ewalt, Jr., M.D., Harvard University Professor of Psychiatry, delivered the dedication address.

CHILDREN AND THE THREAT OF NUCLEAR WAR.—This 22-page pamphlet is a publication of the Child Study Association of America, founded in 1888 with a "program of preventive mental health education" for parents and community groups. It was prepared in response to requests from parents and educators. For single copies write to the Child Study Association of America, Inc., 9 E. 89th St., New York 28, N. Y. Quantity rates available upon request.

CONFERENCE ON STUDENT MENTAL HEALTH.—In response to the need for an examination of student mental health problems in Canada, the Canadian Mental Health Association, the National Federation of Canadian University Students and World University Service of Canada have agreed to convene a Conference on Student Mental Health to take place at Queen's University, Kingston, Ontario, May 10-13, 1963. Participants in the Conference will come from the fields of university counselling and health services, university administrative staffs concerned with student mental health problems, and from appropriate national organizations. One of the principal purposes of the Conference will be to stimulate the gathering of data on student mental health problems in Canada.

University presidents and national participating organizations will be asked to name Conference participants in January 1963, at which time the details of the Conference programme will be announced.

CLARKE HORACE BARNACLE, F.A.C.P.—Born in St. Paul, Minn., January 15, 1906; died in Denver, Colorado, October 4, 1962. B.S. from University of Minnesota, 1928.

M.B. in 1929, M.D., 1930, from the University of Minnesota Medical School. Dr. Barnacle had a brilliant past and teaching career, especially teaching at University of Colorado Medical School. He is survived by his wife, Martha, a son, John, pre-med student at Northwestern, two daughters, Nancy and Mary.

CHANGE-OVER AT SAINT ELIZABETHS.—

With the retirement of Dr. Winfred Overholser ends a quarter century during which he conducted that great institution with enviable credit and distinction. He came to Washington from Massachusetts where after many years in the state hospital service he became Commissioner of Mental Diseases. He was appointed Professor of Psychiatry at the George Washington University School of Medicine at the same time that he became superintendent of Saint Elizabeths Hospital.

Dr. Overholser was President of the American Psychiatric Association for the year 1947-1948. He has received numerous honors both at home and abroad, including appointment as the first Isaac Ray Lecturer in 1952 with publication of the volume *The Psychiatrist and the Law* in the following year.

The George Washington University bestowed upon him the honorary degree of Doctor of Laws.

The new superintendent, Dr. Dale C. Cameron, appointed by Secretary Celebrezze of the Department of Health, Education and Welfare, is no stranger to Saint Elizabeths Hospital. He has had the advantage of a long career in the Public Health Service entailing a wide variety of work in various parts of the country; and for a period was Commissioner of Mental Health in Minnesota. During the last two years of Dr. Overholser's superintendency Dr. Cameron served as Assistant Superintendent of Saint Elizabeths Hospital.

INTERNATIONAL CONFERENCE ON THE BIOLOGICAL TREATMENT OF MENTAL ILLNESS.—

The Conference was sponsored by the Manfred Sakel Foundation, and held at the New York Academy of Medicine from Oct. 31 to Nov. 3, 1962. Max Rinkel, Boston,

Mass., arranged the conference and was its Chairman; Harold E. Himwich, Galesburg, Ill., the Co-Chairman. Jack R. Ewalt, as President Elect of the American Psychiatric Association, and D. Ewen Cameron, as President of the World Psychiatric Association, extended greetings. Outstanding scientists from 22 nations participated, including a delegation from the USSR. Fifty-two papers were read; they covered a wide range of methodological and theoretical problems, and gave a comprehensive review of the exciting biological research now going on at an accelerated pace. Space does not permit the discussion of all individual papers, important and interesting as they are. Only some selected papers will be reported here.

K. Bowman stressed the dangers to psychiatry brought about by the current biological progress. He observed: "When clear-cut organic factors are found to be the cause of a particular mental disease . . . a large percentage of psychiatrists lose all interest in the disorder and often wish to turn it over to a specialist in some other field of medicine." "It seems, therefore, basic to the future of psychiatry that we do not lose the fundamental idea that *a psychiatrist is a doctor of medicine* (italics, the reporter) who specializes in the particular field of mental disorders. . ." H. Hoff (Vienna) more optimistically stated: Because the great masters of psychiatry were convinced of that fact, "they were able to change the course of psychiatry: Wagner-Jauregg by the discovery of the malaria treatment, Sakel by the discovery of the insulin shock treatment." M. Roth (Newcastle upon Tyne, England), in a theoretically important paper, considered the differential effects of biological treatments in their bearing on developing the classification of mental disease.

H. W. Magoun reviewed recent results of research on "neural plasticity" and "memory." He reported that the hippocampus and entorhinal cortex of the temporal lobe play an exceedingly important role in processing novel information into storage, as well as in mechanisms underlying early consolidation and recall. Furthermore, current advances in genetic biochemistry point to the importance of DNA (deoxyribonu-

cleic acid) and RNA (ribonucleic acid) for information-coding, specification and replication. Magoun predicted that further developments which relate memory function to the nucleic acid metabolism of nerve cells will lead to a better understanding of the normal function of the brain, and to a more effective therapy when it is impaired. A. S. Marrazzi discussed essentially cerebral homeostasis as a basis of biological treatment of mental illness. Normal interrelation of normal equilibria at the various levels constitutes homeostasis or successful adaptation which is reflected in mental health. Heterostasis is the failure of adaptation. The object of therapy is the restoration of homeostasis. D. G. Friend indicated the important role of catecholamines in the activity of the CNS. He reported that carefully controlled studies in man have shown that the administration of catecholamine precursors, before and after monoamine oxidase inhibition, is not capable of arousing patients from a depressed state. He theorized that either the catecholamines in man do not have a specific arousing effect or that the catecholamine precursor does not cross the blood-brain barrier in adequate amounts. These findings differ from those that have been observed in animal experimentation. E. Costa reported on the storage depots of norepinephrine and serotonin as neurochemical transducers. H. E. Himwich established statistically a correlation between degrees of psychotic behavior in schizophrenics and their urinary excretion of tryptamine, indole-3-acetic acid and 5-hydroxytryptamine. Williamina Himwich, in excellent motion pictures, demonstrated the behavior of dogs resulting from the administration of 5-hydroxytryptophan and of serotonin antagonists. M. Altschule reported a definite increase of aminochromes in the blood of most schizophrenic patients and a probable causal relationship between the urinary excretion of aminochromes and clinical symptoms. He observed that pineal extracts caused amelioration of hyperaminochromia. G. N. Thompson proposed the theory that irritative lesions in the frontal and thalamic tracts play a very important part in the causation of sociopathic behavior. The determining factor, however, is the location of the lesion. For therapy, specific

frontohypothalamic suppressing agents are needed.

Papers, presented by independent groups in the USA (J. Bergen, H. Hoagland of the Worcester group and R. Pennell of the Protein Foundation; J. S. Gottlieb, Wayne University; R. G. Heath, Tulane University) and Sweden (G. Ehrensward, S. Martens), seemed to strengthen the view that a biochemical abnormality exists in the blood of schizophrenics. The groups used different assay methods, yet the results of each showed that the abnormal substance is associated with either the α_2 or β -globulins. It was suggested that the active moiety is a small molecule attached to a carrier protein which has not yet been identified but is described as an extremely unstable substance. None of the tests for the possible psychotoxic substance were claimed to be specific for schizophrenia, nor was it established that this substance is causally related to the disease or resulting from it. S. Bogoch reported on glycoproteins in the cerebrospinal fluid of schizophrenics. Linus Pauling entered the discussion and pointed out that in his opinion "most mental diseases are molecular diseases, the result of a biochemical abnormality in the human body, a genetic damage."

F. A. Freyhan analyzed the clinical and theoretical basis for establishing a rationale for the biological treatment of psychiatric disorders. Criticizing nosologic sterility, he stressed the need for a psychopathological orientation to provide a valid, therapeutic frame of reference. J. Elkes considered "nodal areas" in psychopharmacology, with special emphasis on the study of symbolic processes in man. H. Ehrhardt (Marburg) contrasted "hospital psychiatry" with "university psychiatry" and explained why, in Germany, drug treatment prevails over all other somatic treatments in state-supported mental hospitals. Public criticism and fear of a malpractice suit have led to the virtual abandonment of insulin coma and ECT; only university hospitals, enjoying greater prestige, are able to base treatment on psychiatric considerations alone. M. Greenblatt reported that in depressions EST produced a two-thirds improvement in contrast to 50% or less achieved by antidepressant drugs. These findings are based

on a carefully designed control study in three psychiatric hospitals. Lauretta Bender reported that daily doses of LSD-25 and UML-491 proved effective in making schizophrenic children less anxious, less autistic and more spontaneous in social relations. A. Weissman delivered a cogent critical analysis of operant conditioning techniques as investigative instruments in behavioral pharmacology. H. Hippus (West Berlin), discussing permanent pharmacotherapy of schizophrenia, stated that the prognosis of schizophrenic patients can be improved by long-term treatment with phenothiazines on an ambulatory basis, and J. O. Cole examined the problem of whether there are real clinical differences between active phenothiazines. H. Akimoto (Tokyo) challenged the designation of imipramine as an antidepressant. He found that it has specific effects on affective disorders regardless of the prevailing clinical manifestations.

Biological therapies and critical evaluations of hospital and village community care, open hospital care, and cultural and social variables were discussed by leading psychiatrists from Nigeria, Brazil, Peru, India, Ceylon, Thailand, and Russia. I. Senanayake reported that of 100,000 patients with mental illness in Ceylon, only 5,000, in government hospitals, receive modern treatment; the remaining 95,000 patients are treated by invocation, charms and rituals. In Thailand (P. Ratanakorn reported), the biological treatment is about the same as in the USA and some European countries.

From a paper presented by the Russian delegate, G. Y. Avrutski (Moscow), it clearly emerged that the treatment of mental illness in the USSR follows the concept of Pavlov's theories on conditioned reflexes, and L. Cammer reported that low-dose insulin treatment seems to modify the psychophysiological conditioning of anxiety according to Pavlovian laws.

Opinions as to ICT ranged from its acceptance (M. Remy, Switzerland: "Insulin treatment has kept its entire value") to its rejection (A. Parkash, Punjab, and N. S. Vahia, Bombay, India: "Insulin treatment was discontinued"). I. F. Bennett conducted a survey of ICT and found that in the USA only 63 clinics still use it today, while about 214 hospitals had active insulin clinics in the late 1950's. Modern techniques of ICT were demonstrated by H. P. Laqueur and K. Dussik at the insulin unit of the Creedmoor State Hospital, in New York.

A banquet marked the closing of this most successful conference. It was held in honor of the participating scientists and attended by members of the Diplomatic Corps of the various nations. The main speaker was Nobel Prize Laureate, Linus Pauling, who gave an enthusiastically received scholarly lecture on mental illness as a molecular disease. He stressed particularly the importance of more extended biological research in psychiatry.

Heinrich Klüver,
University of Chicago.

WIT

Wit consists in knowing the resemblance of things which differ, and the difference of things which are alike.

—MADAME DE STAEL

BOOK REVIEWS

MENTAL PATIENTS IN TRANSITION. Ed. by *Milton Greenblatt, M.D., Daniel J. Levinson, Ph.D., and Gerald L. Klerman, M.D.* (Springfield, Ill.: Charles C Thomas, 1961, pp. 378.)

There is a welcome increase in the emphasis on 1. Intensive treatment and early return to the community of recently hospitalized mental patients, and 2. The rehabilitation and discharge of patients who have been hospitalized for many months or years. The problems of the chronically ill still present the greatest challenges to mental hospitals and the communities they serve.

Two major factors determine the feasibility of each patient's discharge from the hospital, i.e., the degree to which he has recovered from his illness, and the nature of the family, community, and economic situation to which he will return. The hospital staff is thus concerned not alone with its patient, but the patient-community interaction, in short, "the mental patient in transition."

To survey current activities and trends in this field, the editors, in March 1960, organized an interdisciplinary meeting of professional persons working on problems of patient transition. This book contains the edited proceedings of that meeting, and consists of twenty-five articles, two special presentations, and sixteen introductory comments and discussions by fifty-nine authors.

The material is, in general, of high quality, but as in most multiple-author books, the reader will note some unevenness in clarity of presentation and content of papers. It is well organized in five sections dealing with 1. Problems of discharge planning, 2. Facilities used in transition, 3. Community influences, 4. Family influences, and 5. The role of pharmacotherapeutic agents. Warren S. McCulloch's presentation is delightfully written.

This book should be of interest to all professional workers involved in service to mental patients.

DALE C. CAMERON, M.D.,
Washington, D. C.

PSYCHOPATHEN. Daseinsanalytische Untersuchungen zur Struktur und Verlaufsgestalt von Psychopathien. By *Heinz Häfner.* (Berlin-Göttingen-Heidelberg: Springer-Verlag, 1961, pp. 230.)

On the background of Heidegger's ontology,

the author is using Binswanger's Daseinsanalyse and Husserl's phenomenology with mild modifications to forge for himself a tool of Daseinshermeneutik (interpretation of human existence). With this tool he undertakes to examine, to describe, and to interpret the structure and the course of psychopathies. He presents *in extenso* the life histories of a psychopathic swindler, of a psychopathic hypochondriac and of a poikilothymic psychopath. He then constructs an outline of "psychopathic existential constitution" (psychopathische Daseinsverfassung) which he is eager to illuminate from several viewpoints.

The earnestness, the endeavor, and the achievement of the author cannot but be commended. He offers a variety of points which are likely to be useful in future work on the "psychopaths."

Emphasizing the relevance of "facticity" (Factizität) he reports a number of observations and interpretations which were not unknown heretofore. The author, a promising psychiatrist of the younger generation, has adapted his style to wordage à la Binswanger who, incidentally, wrote a preface to this monograph. This means with all due respect to both of them that much of what is being discussed could have been expressed more simply.

It is expected that in years to come existential concepts will be integrated into psychiatry and psychopathology. The attempt to make existential analysis the cover-all for our discipline appears theoretically unsound and practically unfeasible.

EUGEN KAHN, M.D.,
Houston, Texas.

WESTERN PSYCHOTHERAPY AND HINDU SADHANA. By *Hans Jacobs.* (New York: International University Press, 1961, pp. 231. \$6.75.)

This is a carefully written and thoughtful book. It expresses the findings in India of an experienced western psychiatrist as he interprets them, together with his personal philosophies. This book will be of interest to every one in psychiatry and allied fields who has an interest in the Indian doctrines and schools of thought, especially Yoga. Dr. Jacobs has lived and worked in a number of countries. This volume represents a distillate of his accumulated wisdom. The author describes his work as a "contribution to comparative studies

in psychology and metaphysics."

This is not a light nor lightly read exposition. One must attend carefully to grasp the subtleties of Hindu views of life as the author seeks to make them clear to us in English. Following a short preface, the data are presented in three major sections: part I concerns the background of contemporary thought as interpreted briefly by Dr. Jacobs; part II, with four chapters, is a general exposition of Freudian and Jungian principles and the pathways taken in India; the final part is a general estimation with six chapters, including ones on Yoga and the West, Modern Psychiatry, and The Religious Problem with Jung. There are frequent footnotes with references to a wide selection of Western and Indian sources. Illustrations of interest are included from the author's clinical experiences with the treatment of patients. Some of their art work is reproduced. This book will help widen our acquaintance with Indian philosophy and aid in undertaking comparisons and contrasts with certain of our western dynamic schools of thought.

HENRY P. LAUGHLIN, M.D.,
Chevy Chase, Md.

CONTEMPORARY EUROPEAN PSYCHIATRY. Edited by *Leopold Bellak, M.D.* (New York: Grove Press; London: Evergreen Books, 1962, pp. 372, incl. index. \$7.50. Evergreen paperback, 1961. \$3.95.)

Dr. Bellak tells us in his Introduction that to date he has spent about half of his life in Europe and half in the United States. On the basis of his "double life" therefore he is in a position to offer some personal views on the differences and resemblances of European and American psychiatry. This he does in a discriminating and useful fashion in his Introduction. Here too he gives brief sketches of those invited to represent the several countries: France, Pierre Pichot; Germany and Austria, Hans Hoff and O. H. Arnold; Great Britain, Sir Aubrey Lewis; Italy, Ugo Cerletti; Scandinavia, Gabriel Langfeldt; The Soviet Union, V. A. Gilyarovsky; Switzerland, Gaetano Bernedetti and Christian Müller.

In European psychiatry as a whole, as compared with American, Bellak states, "There is undoubtedly more of a descriptive, genetically-organically oriented trend . . . Further, except for a few psychoanalysts, the practice of psychiatry is more related to institutions than to private practice; it is more concerned with psychoses than neuroses; its clinical descriptions are richer and its classifications more complex . . . Psychiatric considerations enter

less into the general field of activities, into other branches of medicine, and, in particular, into public concern with raising children . . ."

Special attention may profitably be given to developments in Scandinavia where, as Bellak remarks, "Meticulous research along genetic lines runs parallel to a predominantly 'organic' psychiatric orientation which stems mostly from classical German psychiatry. Yet here one sees some of the most advanced concepts of social psychiatry." It must be remembered that Langfeldt who speaks for Scandinavia is an enlightened humanist who fights superstition and popular delusions of all kinds.

In Britain, generally speaking, "psychiatric life appears to move in steadfast, sober paths." Sir Aubrey Lewis, reporting for England, remarks that the National Health Act "which turned Great Britain into a welfare state, brought psychiatry firmly into the general household of medicine." That's one thing to credit the N.H.S. with.

Bellak seems to be of two minds about European psychiatry. "At its worst," he says, it "reminds one of American psychiatry of some decades ago," and he adds disparagingly, "or of some of its non-dynamic psychiatry today." But overleaf he softens the slight. "At its best, European psychiatry has a vitality, a creativity, and a progressiveness unmatched in the United States."

There is considerable preoccupation in continental Europe, *i.e.*, in Germany and Switzerland especially, with the tendentious negativism of existentialism. Indeed the report from Switzerland, after taking account of the great debt to Forel, Bleuler and Jung, proceeds to "the principal trends" of the contemporary scene and opens with two pages of existentialist doctrine. This reminds us of something Aubrey Lewis said in his chapter on Great Britain (p. 146): "The countrymen of Locke and Hume are reluctant to embrace the latest certainties of the enthusiast or the cloudy abstractions of the metaphysician. Existential analysis, as described by some European psychopathologists and therapists, has found no home here." And Sir Aubrey adds that "this empirical and skeptical attitude . . . may have hindered the acceptance of psychoanalysis as a system, and fostered a slight bias toward the study of somatic rather than mental dynamics as a gateway to the knowledge of human behaviour." In England, however, psychoanalysis is strongly represented, although divided "by the contest between those who accept Melanie Klein's views and those, like Edward Glover and Anna Freud, who maintain a more conservative or orthodox stand-

point." Aubrey Lewis outlines briefly these differences and neatly concludes, "It is not for the outsider to attempt to judge this controversy."

The reporter for Russia pays constant tribute to the great Pavlov. "Today, in general, Soviet psychiatry is being reorganized on the basis of Pavlov's teachings." Also he credits Pavlov with correcting some of the "erroneous views" of pre-revolutionary psychiatrists who "overestimated the role of heredity and constitution." An important contribution of Soviet psychiatry, he states, is "a consistent materialist theory of the pathogenesis of mental illness." As is well known psychoanalysis is not popular in Russia; and leucotomies "were banned by special order of the Minister of Public Health."

Swiss psychiatry, apparently contrasting somewhat with practice in Britain, finds "that the psychotherapists' contribution greatly exceeds the resources of a rationally mastered somatic treatment technique." It is interesting to find that "in Switzerland the term 'clinical psychologist,' as it is used in the United States, does not exist." And "the subject of psychology is classified under philosophy in Swiss universities."

In current French psychiatry Pichot speaks of increased interest in the neuroses rather than in the psychoses, in the affective and unconscious rather than in the intellectual and conscious aspects, in the dynamic rather than in the static features. These trends, however, Pichot adds, "have been established only gradually. The main currents of the preceding period . . . still constitute the basis of modern psychiatry."

In France as in Britain the psychoanalytic movement underwent a schism. There are two societies, each conducting its own training courses, unassociated with the university curriculum.

The most important psychiatric center in France is the Sainte-Anne Hospital, presided over by Professor Jean Delay of the University of Paris. Delay's work has had a paramount influence in French psychopathology and "achieves a harmonious synthesis of the diverse influences."

Cerletti, reporting for Italy that gave us electroshock therapy (Cerletti 1938), speaks of the traditional organic trend in Italian psychiatry. "Such an orientation could not favor the development in Italy of the dynamic psychopathology formulated by Freud and his pupils . . ." However to keep an open door Cerletti, against opposition, included lectures on psychoanalytic theory in his teaching. He found that "the Italian public did not respond

to the new concepts with the strong interest manifested by the Anglo-Saxons." A psychoanalytic society of some 20 members has been formed.

Cerletti considers that research in the biochemistry of the nervous system "will ultimately prove most fruitful."

Hoff and Arnold writing of German psychiatry state that "one can find only a few points of contact among the various schools of thought. Yet, the degree of difference between these theoretical trends is not nearly as great as that which exists in American psychiatry."

In a long chapter the authors try to take account of the diverse trends in psychiatric thought, and not only in Germany. They conclude "that psychiatry is in a state of crisis," although they are hopeful that it is only transitory. They look more to Freud for help than some of the other reporters do. "The theories of Freud, with all the inconsistencies which adhere to them, have accomplished more to acquaint man with his brother than any other event of the last century."

Langfeldt (Scandinavia) has a good word to say for descriptive psychiatry (an expression that an occasional American writer unfortunately uses as a term of derogation, apparently unmindful of the fact that all science begins with observation and description of what is observed, and that if only observation and description could be *complete*—as of course they never are—full understanding would follow). Speaking of schizophrenia studies in Norway, Langfeldt says, "As in other disorders, the purely descriptive method has been retained with regard to the diagnosis of schizophrenia. Thus, no one has attempted to conduct a psychological investigation of the psychogenetic factors of this disease, or of its psychotherapy. Here too, the main contributions to research have been in the pathophysiological field." Langfeldt is most outspoken in criticism of psychoanalytic methods, and especially of their prevalence in the United States; and he adds, "one cannot help but be discouraged by the ignorance of many American psychiatrists with regard to the results of research in heredity, constitution, and biology, and in particular, with their almost complete disregard of ordinary descriptive diagnosis and prognosis." There has been a consistent historical development of psychiatry in the Scandinavian countries, "with its firm attachment to hereditary, constitutional, and biological factors . . ."

The author comments that "psychoanalysts are never appointed to permanent positions at

any of the Scandinavian university clinics or mental hospitals."

One wonders if in any other field of medicine or other science so many divisive trends develop as in psychiatry. Such division is of course in inverse proportion to the amount of solid knowledge on which the discipline is based. It is comforting to read the words of Sir Aubrey Lewis about the atmosphere in which for the most part British psychiatrists pursue their labors: "Although psychiatry in Great Britain is not homogeneous, either in theory or in practice, it is not sharply divided into recognizable schools, centered on prominent men with distinctive views. The climate of opinion is temperate; the intellectual winds are seldom sharp and nipping. As in other branches of medicine, assertive therapeutic claims are met with tacit distrust and, on rare occasions, public puncture. Theorizing is expected to take forms that can be tested experimentally (unless it follows well-trodden paths, such as those of psychoanalysis). Polemics are rare; but criticism is nonetheless steady and palpable."

C.B.F.

DIE EIGENART DER KINDLICHEN HIRNTÄTIGKEIT
By *Albrecht Peiper*. (Leipzig: Georg Thieme, 1961, pp. 749. D.M.71.70.)

This admirable book, devoted to the specific nature of cerebral activity in the human infant, covers the field fairly exhaustively. Professor Peiper takes the view that consciousness and higher intellectual activities have their origins in sensory perception. If sensations are the elementary and uninterpreted items of experience, perceptions are the meanings with which those items are invested. Professor Peiper is concerned, in this volume, to trace the development of human activity as a consequence of the growth of the child's ability to perceive. He, therefore, considers the development of sensory activity, of facial expression, posture and motion, locomotion, movements, clinically important reflexes, the neurology of respiration, the neurology of food intake, sleep and sleep-like conditions, conditioned reflexes, neurological characteristics of certain developmental stages, evolution and breakdown of cerebral activity, and finally, the child and its environment.

Professor Peiper has many wise things to say in this well-illustrated and well-documented volume. It should be found of the greatest value by all students of human behavioral development.

ASHLEY MONTAGU, PH.D.,
Cherry Hill, N. J.

DISTURBIOS PSIQUIÁTRICOS DA CRIANÇA. By *Haim Grünsun*. (São Paulo: Fundo Editorial Prociens, 1961, pp. 576.)

This textbook by a Brazilian professor of child psychiatry is the first in a series of 3 volumes (the second will be devoted to behaviour disturbances, the third to psychosomatic disturbances in children). The present volume is a guide to the practical examination, diagnosis and treatment in child psychiatry. The first chapter teaches how to extract the life history of the child. The second describes the function of each member of a child psychiatric team. Then comes a detailed outline of the clinical and psychological examination. We note an emphasis on the neurological examination and on the developmental and motor tests. Four main clinical pictures are discussed in detail: oligophrenia, epilepsy, child psychoses (schizophrenic and manic-depressive) and delinquency. In the concluding chapters the author distinguishes the medication, therapeutic education and institutional treatment. In the therapeutic education the emphasis is put on habit formation: teaching the child to sleep, eat, dress himself properly, etc., and on graduated exercises for the development of concentration and other mental functions.

Grünsun's textbook has eminent didactic qualities. It gives precise definitions, lucid explanations, instructive case histories and clear-cut classifications which follow the Kraepelinian nosology. The medical philosophy is based on neurophysiology and classical pedagogics; no mention is made of psychoanalysis. Curiously enough, although the outlook is decidedly European, the bibliography draws heavily on English and American authors. The publishers should be complimented for the beautiful paper and printing of both text and illustrations.

H. ELLENBERGER, M.D.,
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PSYCHOPATHOLOGY OF AGING. Edited by *Paul H. Hoch, M.D.*, and *Joseph Zubin, Ph.D.* (New York and London: Grune & Stratton, 1961, pp. 306. \$9.75.)

This book contains papers presented at the 1960 meeting of the American Psychopathological Association. It deals with mental illness in the aged, and is divided into four parts.

Part I deals with Epidemiology. There is a fascinating historical review. A statistical review of cerebrovascular disease reveals mainly that reporting is inconsistent. The most solid epidemiological contribution deals with trends in hospitalization and patterns of care

in the mentally ill aged. This exhaustive survey contrasts the recent plateau in first hospital admissions for mental illness in the aged with the steadily increasing expectation of such illness in our population. Interesting speculations are made to account for this variance.

Part II, Psychology, has three reviews of quantitative experimental studies of certain factors in aging. For example, one study attempts to measure adaptability in the aged. In Chapter 8, Dr. Arnhoff decries traditional negativism in psychological studies of the aged. Dr. Wechsler discusses the "G" factor in intelligence. The "G" factor is defined as the capacity to perceive relevant relationships. He suggests that the "G" factor declines more than memory with aging, leaving memory, poor though it may be, the relative mainstay of the aged.

Part III deals with Psychophysiology and Genetics. Three psychophysiological papers are interesting, but inconclusive. The genetic contribution by Dr. Kallmann is aimed largely at demonstrating the genetic basis for longevity in the comparison of one egg and two egg twins.

Part IV deals with Management Problems. The current trends in the State of New York are described. There is a survey of the various agencies and institutions in the State serving the psychiatrically ill aged, and an optimistic report, also from New York State, of an intensive treatment geriatric ward in a State hospital. A study of the technique of outpatient treatment of the depressed elderly patient is reported. The last chapter relates pre-admission isolation to poor adjustment in homes for the aged.

In summary, this published collection of papers gives a creditable review of the problem of mental illness in the aged. It is strongest in its global approach and should be of special interest to administrators or others concerned with long range planning in this area.

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CONDITIONED REFLEX THERAPY. By Andrew Salter. (New York: Capricorn Books, 1961, pp. x, 359. \$1.75.)

This is a reprint in paper back of Salter's cloth bound book which appeared in 1949. It is written by a practicing psychologist on Park Avenue, the author of an excellent book on hypnosis, to expound his methods of treatment of psychoneuroses, anxieties, stuttering, drug addiction, smoking, etc. The methods he uses are briefly common sense and the sub-

stitution of activity for indecision and the various forms of inhibition which beset the midcentury civilized man. The author attributes his successes in alleviating his patients' ills to Pavlov's conditional reflex principles. The book is replete with case histories. On the authority of the author he has been remarkably successful in curing his patients in contrast to prolonged analytical theory.

At the present time there are two main schools of thought which underlie psychopathology—those of Freud and of Pavlov. American psychiatry has been eclectic, Freudian, or to a very limited degree, physiological and Pavlovian. The proponents of the theories emanating from the two chief leaders have in general been violently opposed. The present volume is an espousal of Pavlovian principles and a renunciation of Freudian. Although this book makes no pretence of a scientific evaluation of Pavlovian theories, it nevertheless adduces examples of a simplified psychotherapy which the writer believes is based on Pavlovian concepts of excitation and inhibition. One successful internist who treats psychiatric patients (Parmalee) tells me that he recommends this book to patients, many of whom definitely benefit by following its rules. The book is a practical rather than a theoretical discussion of Pavlovian principles.

The historical importance of the book is that it was a pioneer in the USA of the application of Pavlovian theory in psychotherapy at a time when it was dangerous—or at least unpopular—to accredit the 1903 Russian Nobel Prize winner. Until Wolpe's recent book on the use of the conditional reflex in psychiatry, Salter's *Conditional Reflex Theory* has been almost the only book in English on the subject.

W. HORSLEY GANTT, M.D.,
Baltimore, Md.

PREVENTION OF MENTAL DISORDERS IN CHILDREN—INITIAL EXPLORATIONS. Ed. by Gerald Caplan, M.D. (New York: Basic Books, 1961, pp. 425. \$8.50.)

This book contains 16 original papers on the main theme: the prevention of mental disorders of childhood. They represent the preparatory material for the conference of the International Association of Child Psychiatry and allied disciplines held in August 1962, in Holland.

Dr. Caplan, who has brought this material together, has arbitrarily divided these 16 papers into four groupings: four papers deal with the organic factors that have a noxious effect on the child's mental health; the next four

papers deal with "psychosocial implications of interpersonal relationships within the family"; the next group of five papers are on the "psychosocial implications of situational and maturational crises in the development of personality in children"; and finally, three papers deal with the "socio-psychologic implications of the school setting for promoting of mental health."

While each of the papers focus on one of the above areas, it is clear that all of them touch on all the areas: the organic, the psychological, and the socio-economic.

The book has a great deal of rich material and will be most useful in the various fields in which child psychiatrists and allied disciplines function. The clear theme of the material deals with the broader life of children and does not focus on the therapeutic work on the individual child and his family. Dr. Caplan has written an introductory chapter giving a condensed summary of each of the papers.

FREDERICK H. ALLEN, M.D.,
Philadelphia, Pa.

HANDBUCH DER NEUROSENLEHRE UND PSYCHOTHERAPIE. VOL. V. Ed. by Victor E. Frankl, Victor E. Freiherr v. Gebattel, and J. H. Schultz. (Munich, Germany: Urban & Schwarzenberg, 1961-1962, parts (*Lieferungen*) 21 (pp. 135. DM 17,50); 22 (pp. 228. DM 28,75); 23 (pp. 259. DM 32,50); and 24 (pp. 243. DM 32,50).

The last volume of the *Handbuch* is now completed. The previous ones have already been reviewed in this Journal. As with the previous parts, each new section seems to be devoted to specific topics, except for *Lieferung* 21, which deals partly with "intrapsychiatric *Grenzgebiete* (allied fields)," such as shock therapy, psycho-surgery, pathology of the hypothalamus, and problems of child neuroses originating from or associated with encephalopathy, psychopathy, waywardness and delinquency, and "constitutional" problems. The last three *Lieferungen* each have their own theme. No. 22 deals with medical "specialties" in relation to psychosomatic illnesses (although this reviewer did not encounter the term "psychosomatic" in any of the authors). An excellent contribution by Guenther Clauser on internal medicine gives the reader an insight into German methods of classifying etiologies and treating emotional components of organic illness by means of case histories. Clauser bases many of his practises on Kretschmer, as probably do most of his colleagues in Germany, i.e., on the adynamic method without psychotherapy, as

we understand it. J. Lassner writes about anesthesiology, theorizing on "preoperative" and "postoperative" psychotherapy. Many of his theses are well taken, and well-known in this country. L. Kreuz and O. Boos add to Lassner's contribution by writing about psychotherapy in surgery "including orthopedics." Hans-Joachim Prill presents two articles on gynecology and obstetrics, partly raising similar questions as Lassner, Kreuz and Boos, with respect to surgical problems; in addition, frigidity, sterility, impotence, climacteric and adnexal disorders are discussed. Hellmuth Kleinsorge discusses urology, Otto-Suël Hinz ophthalmology, Siegfried Borelli dermatology, G. Joppich pediatrics, and Heinrich Hanselmann *Heilpaedagogik* (psychological and sociological concepts of the personality the development of which is distorted or arrested). *Heilpaedagogik* has become rather "popular" in Germany, and is often taught and practised by non-medical, although well-trained, practitioners, who base their theories on Freudian concepts. All this is found in *Lieferung* 22.

Lieferung 23 and 24 are, strictly speaking, devoted to non-medical *Grenzgebiete* (allied disciplines), such as forensics, criminology, education, anthropology, and the "evaluation" of various theories of the neuroses. No. 24 is devoted only to theology: one Catholic, two Protestant, and one Jewish point of view are represented. The editors had intended to complement these with a "discussion," but cancelled their intention when the Jewish representative, Norman Salit (New York), died before finishing his contribution. The editors felt, however, that if they had taken a "stand," they would have disagreed with Salit, as would the reviewer. (While Rabbi Salit undoubtedly represents his religious point of view well and is ably competent speaking about Judaism, the fact that he seems to consider Freud an "enemy of religion" may show him to be in error, particularly when he believes that Frankl and his "logotherapy" are now the reincarnation of "traditional Jewish concepts.")

The subjects and author indexes, attached to No. 24, number over 70 pages, and will make it easy for the reader to refer to all five volumes quickly. Briefly to evaluate the individual contributions is difficult, since the contributions are different in conception, content, and scholarship. The publisher can be congratulated for a minimum of printing errors particularly since much of the source material is multi-lingual. Some contributions contain some of the finest writing this reviewer has ever seen; other contributions are so marked with aggression against certain individuals or

schools of thought that they could just as well have been omitted; often the writings overlap, which reflects the divided editorship of the *Handbuch* (in making inquiries of all three editors, this reviewer learned that one editor did not know of the others' functions and even disclaimed knowledge of the editorship of the others). Still, with all their striving for *Gründlichkeit* (thoroughness) and universality, the editors have achieved a monumental enterprise, probably comparable with its noble American counterpart, *The American Handbook of Psychiatry*.

HANS A. ILLING, Ph.D.,
Los Angeles, Calif.

THE ANNUAL OF CZECHOSLOVAK MEDICAL LITERATURE 1959. *National Medical Library.* (Prague: State Health Publishing House, 1961, pp. 732.)

This 732-page compilation, under the direction of Dr. Joseph Navrátil of the National Library in Prague, includes author and subject index (80 pages), and covers the whole range of medicine, including reports on books and periodicals in brief form, and notices of contributions of each author published abroad. All specialties are covered, including neurology, psychiatry, sciences basic to medicine, also public health, veterinary medicine, and medical history.

F. V.

ADOLESCENTS: PSYCHOANALYTIC APPROACH TO PROBLEMS AND THERAPY. Edited by *Sandor Lorand, M.D., and Henry I. Schneer, M.D.* (New York: Paul B. Hoeber, 1961, pp. 368. \$8.50.)

This volume contains the contributions of 19 authors who report on their clinical experience with a wide variety of behavior problems developing in adolescence. The material was drawn largely from lectures given by the authors at the State University of New York and sponsored by the Division of Child Psychiatry.

The title accurately reveals the emphasis in all the articles. Each author is a practicing psychoanalyst. A partial list of the titles reveals the wide scope and covers most of the deviant behavior problems arising in both boy and girl as each seeks to solve the dilemmas of this period.

Each article contains a detailed case study

from which principles are discussed with particular emphasis on the therapeutic method employed. These case studies provide the practical application of the tenets of psychoanalysis and all adhere closely to classical theories of this school. Most of the articles contain references to the literature and an adequate index is provided.

This book will prove valuable to those who view this period from the psychoanalytic point of view. For those who view and deal with the adolescent from a different point of view, the book provides much provocative material.

FREDERICK H. ALLEN, M.D.,
Philadelphia, Pa.

HOW TO BE AN ADOLESCENT—AND SURVIVE. By *John L. Schimel, M.D.* (New York: Richards Rosen Press, 1961, pp. 158. \$2.95.)

When a Juvenile Court judge recently asked an adolescent why he had gotten into trouble the boy replied: "There will probably be a thermonuclear war in the near future and I don't expect to survive." The author of this book has no answer for this most important problem of survival for our youth, but he gives in this serious and readable book advice about how to cope with the world in which they find themselves. He may be right when he seems to imply that it will be a pretty regimented one. Consequently he instructs his adolescent readers in areas he considers most important: how to be a good interviewee—that is how to handle oneself best in an interview so as to get admitted to a college, a graduate school or a job; how to acquire "learnable skills" for the mastery of encounters with teachers, employers, *et al.*; how to face the various forms of taking examinations and tests; how to "improve communications."

In the epilogue the author addresses his young readers: "You will be expected to have mastered certain skills in dealing with your fellow man. Your career, from first to last, will reflect the extent to which you have acquired these skills." I am afraid the bright adolescent will gather from this presentation that personal relations are more important than competence, communication more important than content, and that success depends not on what you know but on handling those whom you know.

FREDRIC WERTHAM, M.D.,
New York.

THE CRITICS OF PSYCHIATRY: A REVIEW OF CONTEMPORARY CRITICAL ATTITUDES¹

MILTON H. MILLER, M.D., AND SEYMOUR L. HALLECK, M.D.²

The psychiatrist has probably both the most prestige and is at the same time the most highly criticized person on the American professional scene. Before entering the field, he may have heard psychiatry spoken of as a quasi-medical subject, and his knowledge is often derived in the beginning from novels, films, newspapers or other sources. During medical training and residency, he learns to tolerate the ambivalence of other medical colleagues towards his work and learns as well how to express his own ideas in such a way as to protect himself from the onslaughts of more vigorous critics. As he begins his practice of psychiatry, he can perhaps rightfully say, "Who knows more of criticism than I? I even invite and encourage my patients to express their resentments and disagreements to me directly."

Thus in a way, the individual trainee and young psychiatrist recapitulates personally the exposure to criticism which has been characteristic in the history of psychiatry from its earliest days. Many of the complaints which the student hears prove fatuous in the light of his own growing clinical experience, and he is likely to see many critics as being crankish, overdetermined in their ideas, and generally motivated by other than scientific values. He may early develop a preoccupation with the motivation of his critics rather than with the contents of their criticisms and this attitude is reinforced by his daily contact with patients in which intellectual attacks upon him often have roots in disturbing personal conflicts. This knowledge is helpful to him in his work with patients, but at the same time it may make him somewhat less than fully

open to examination of his basic postulates and ideas.

It has seemed to the authors that individually and as a profession, we develop at times the habit of lumping all criticisms and all critics together, the better to disregard them all. It is certainly comforting to find apparently the same motivations behind the devastating critique of a scholar examining our basic assumptions as we may find in the over-ideational attacks of an obsessive or angry patient. Such apparent discovery, by preserving our comfort for the moment, cannot provide a favorable atmosphere for the continued growth and development of our profession.

A review of the critical literature of contemporary scientists, fellow physicians, fellow psychiatrists will leave the uncommitted reader with the strong feeling that these works are not to be taken lightly. Contemporary criticism focuses upon all aspects of psychiatry and none of our postulates, conceptions, or empirically derived practices are immune to attack. Neither for that matter, is any subdivision of psychiatry immune; neither the psychoanalysts nor the biological psychiatrists, nor those in social psychiatric fields can claim freedom from lengthy critique. Many psychiatrists assume that psychiatric practice as we know it is here to stay, that it is essentially solidly based, that its various hypotheses are either clearly proved or "are the best we have," that our diagnostic therapeutic and theoretical ideas are widely accepted by fellow scientists as valid. The authors will attempt to show that this is far from true. For example, proof of the existence and significance of out-of-awareness motivation has been described as "on the same scientific level as the miracles" of the Bible(1). Similarly, our pride in the humanistic orientation of our profession is contested by one reputable scholar as "perhaps the last one of the medieval absolutist controls over the

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² Respectively, Chairman, Assoc. Prof., Dept. of Psychiatry, University of Wisconsin, Madison, Wis.

destiny of the individual"(2). One entrenched conviction that we help is contested by reputable scholars who say that psychiatric therapy is a great impediment to recovery from emotional illness.

Contemporary critics of psychiatry run the gamut. They range from distinguished scholars in a variety of specialty areas including psychiatry and extend down to haranguing zealots whose professional careers seem almost exclusively devoted to "exposing" psychiatry in order to facilitate the professional extinction of this breed. As authors embarking upon review of a touchy, difficult, emotionally-laden area, we try to be guided by two fundamental hypotheses; first, the "facts are friendly"; secondly, we feel that the honest search for truth characterizes not only ourselves and our immediate professional colleagues but characterized the intention of our critics as well. We will focus upon the intellectual content of the critique and will devote particular attention to evaluations of leading scientific writings during the last ten years, in the English and American literature. Contemporary critical attitudes will be considered under five headings: 1. Is "mental illness" as conceived of by psychiatrists a valid concept? Do medical analogies apply to the complicated issues of human behavior? 2. Are there scientific bases for any of the fundamental hypotheses which underlie any of the psychiatric therapies? 3. Do psychiatric therapies work; are they useful? Are there significant demonstrations of the effectiveness of any form of psychiatric therapy? 4. Is there a basis for psychiatric contribution to delinquency, law, philosophy, theology? Do psychiatrists leave the treatment room and go to other areas, promising more than they deliver? 5. Can the needs of our society which are currently met by psychiatrists be fulfilled more economically, more adequately and more equitably in some other fashion?

In his book, *The Myth of Mental Illness*, Thomas Szasz(3, 4), practicing psychoanalyst, questions the entire conception of "mental illness" as a medical problem. For Szasz, disorders of behavior are not adequately understood by us, due to an unwillingness to give up our medical frame of reference. He questions the motivation

of psychiatry in wishing to adhere to the prestige and status of medicine in areas which do not belong in the province of medicine. He states,

There is no such thing as mental illness. The concept of mental illness is being put to work to obscure certain difficulties which are inherent in the social intercourse of persons. If this is true, the concept functions as a disguise; for instead of calling attention to conflicting human needs, aspirations and values, the notion of mental illness provides an amoral and impersonal thing as an explanation for problems in living.

He suggests that many of the concepts currently listed under the title of illness should be classified instead as examples of man's struggle with the problems of how he should live. Similarly, Hollingshead and Redlich(5) have thoroughly reconsidered our time-honored conception of neurosis as a relatively well-defined entity. They observe, "We take the position that a neurosis is a state of mind, not only of the sufferer, but also of the therapist and it appears likewise to be connected to the class positions of the therapist and the patient." A diagnosis arises from a number of conditioning factors; the experiences of the patient, the training and techniques of the doctor, as well as the social values of the community. Is the schizophrenic patient the iconoclast of our time? Jules Masserman(6) suggests that the psychotic may be the individual who refuses to believe the delusions which allow other people to live in comfort. Rogers (7-9) has questioned the entire concept of diagnosis and serious critiques of the whole concept of mental illness, neurosis, psychosis, and diagnosis have been presented by others(10-12).

The second area of contention in the eyes of many of the critics of psychiatry pertains to the question as to whether there is a scientific basis for any of the fundamental hypotheses which underlie psychiatric therapies. Such variant concepts of the hypotheses concerning out-of-awareness (unconscious) motivation and the various rationale behind somatic treatments have been comprehensively questioned. Do psychiatric underpinnings and foundations rest upon the clouds? H. J. Eysenck, noted

English psychologist, in a series of writings (13-17), has criticized the concept of unconscious motivation which he finds unnecessary to explain human behavior or success in psychotherapy. Similarly, he raises questions as to the value of any procedure based upon the concept of unconscious motivation, including psychological projective tests. Regarding projective tests, Eysenck indicates that "results are not superior to the results that would be secured by writing different diagnoses on the faces of a dye and then casting the dye to determine the personality of the subject." The concept of the unconscious has been questioned by other psychologists(33), by a number of philosophers, including Nagel (18), Van Den Haag(19), and Hook(1). A different perspective of human behavior which need not be dependent upon unconscious motivations is presented by existential theorists including Rogers(8, 9), May(20), Sonneman(21), Boss(22), and Farber(23). The concept of psychic determinism is seriously questioned by Angel(24), who points out that new findings in modern physics tend to make our ideas of determinism appear naive and untenable.

The concept of psychodynamics is vigorously criticized by psychiatrists Cleckley and Thigpen(25) who feel that psychiatry has made something of a Holy Grail of this term. They ask the question, "How do men of learning and high intelligence come to accept and hold with such stout faith beliefs for which there is so little demonstrable evidence?" In answering their own question, some of the points which they find relevant are

(a) the tendency of psychiatrists to mix truisms with unproved assumptions and to offer this mixture under a single term, (b) the tendency to use verbal constructs in overexpanding exercises of reason or rationalization that progressively lose relation to observable realities, (c) the tendency to use of assumptions which are accepted without evidence but on faith by the therapist and are discovered again and again through some symbolism and other unreliable means of inference in the unconscious of patients, (d) the tendency to use of jargon to blur implausible concepts and to convey the impression that something real is being disclosed and (e) the gradual and pervasive influence of sincerely committed devo-

tees of metapsychological creeds and students and disciples who are led to feel, "It is only because of resistance that I cannot see evidence for what teachers affirm with such true faith."

On this line, perhaps the most devastating criticism of our preoccupation with "dynamics" was made by Jules Masserman(26) in his jocular description of the dynamics of *unguis incarnatus*. Astonishingly, this satirical discussion was taken literally by a number of colleagues.

Central in the writings of many critics (1, 10, 11, 18, 27-33) who question the fundamental hypotheses of psychiatry are the assertions of weaknesses, inadequacy, and secular orientation of much psychiatric research. Bailey(10) traces this deficit to the beginnings of the psychological movement and to Freud, stating, "Freud's psychological writings are reveries . . . Freud failed at all experimentation, thus his theories today are badly backed." No less seriously criticized are the psychiatrists with an organic, heavy biological orientation. Hakeem notes that eclectic and biologically oriented psychiatric theories are not scientifically based(12).

Another large group of contemporary critics are to be found among those who use an existential, theological or sociological approach. The existential movement in psychiatry includes some who seriously question the ultimate knowability of motivation of human beings. May(20) and Rogers(8) have both expressed doubts about the kind of world in which we would live if there were ever to be an ultimate knowability as regards behavior. Other existentialists feel that a biological psychiatry which considers man as a bundle of drives and repressions fails to understand the nature of man's being. These critics(33, 34) are perplexed at the rigidities of modern psychoanalysis and psychiatry which they see as moving towards an all-inclusive theory of behavior which fails to recognize human potentialities and which deprives the patient of alternative approaches to improvement because of our own rigid inflexibilities. Allers(35) and Pongratz(36), whose orientations may be described as "existential-theological," feel that in ignoring religious motivations, psychiatry is incomplete and can never

come to understand the true nature of man. Other theologians such as Fulton Sheen (37) are critical of a tendency of psychiatry to imply knowledge of "a first cause," when according to Sheen such knowledge is the province only of religion. Fromm(38) and Percy(39) are concerned with the development of a type of psychiatry which can help man to adjust and to satisfy biological needs and which yet leaves him desperately alienated from himself.

While many of the basic assumptions underlying psychiatric practice have psychoanalytic derivation, it would be misleading to assume that these attacks exempt other forms of psychiatric practice. While the non-analytic psychiatrist may nod approvingly at some of the harder criticisms of psychoanalysis and the dynamic psychiatrist, he is misled if he believes that he is himself in some way exempt from attack. Insofar as he uses diagnostic, evaluative, psychological concepts in his work, he is susceptible to the same charges levied against the psychoanalyst.

By this time, the defensive psychiatrist may be acknowledging, "perhaps there is no such thing as mental illness, and perhaps our theories are fatuous, but we do help people!" This latter assumption has been bitterly criticized by a number of scientific students. Eysenck(13-17) has made detailed statistical studies of various forms of psychotherapy and concludes, "There is absolutely no data available suggesting that human beings change as the result of psychotherapeutic contact." He feels that where psychotherapeutic methods produce a cure, the practitioners are actually using methods derived from learning theory and that results of conventional therapies are really inferior to those obtained with conditioning and learning theory approaches. Eysenck believes that insight and recovery of past memories is not at all essential to a development of cure. Further, he deplors the tendency to minimize the values of symptomatic cure which he feels is possible without insight. In these observations, he is warmly supported by Stevenson(40) and Wolpe(41).

In the field of preventive psychiatry, Carstairs(42) notes that we have been unable to produce positive evidence that preventive

measures materially cut down on the symptoms of psychiatric attacks of children or their parents. Wortis(43) notes that approximately one-third of patients get well with treatment, one-third may be minimally influenced by treatment, and one-third do poorly. Bailey(10) observes that Esquirol reported identical results 120 years ago. Denker(44) reports that "most psychoneurotics recover within 2 years with no other assistance than episodic counsel from a general practitioner." In this instance there was no evidence that the contacts with the general practitioner were of much therapeutic value. Similar studies have been reported from Great Britain(45). Schlein(46) reports no demonstrable differences in patients seen transiently in contrast with those patients who were seen for long periods of psychotherapy. This observer, however, contrary to Eysenck's view did feel that certain changes were demonstrable in patients who were seen in client-centered therapy. Bailey with characteristic vigor has questioned the efficacy of all areas of psychiatric treatment including psychosurgery, ECT and tranquilizing medications. Regarding the rather glowing reports in our literature concerning tranquilizer therapy, a popular play of speakers has been to read a very favorable paragraph ostensibly about the impact of new medications, and then reveal to the audience that this article was written one hundred years ago and concerns the bromides. In a more scholarly vein(10, 47), all of the organic therapies have been vigorously criticized as either lacking in effectiveness or as creating problems for patients which are perhaps worse than the illness(48, 49). The problem of research which naively leads us to unrealistic expectations of drug therapy has also been carefully examined(50-53).

The psychiatrist who leaves his treatment room and goes to other areas of science or the humanities faces a broad battery of critics. Is there a basis for psychiatric contribution to delinquency, the law, philosophy, theology, literature, and world government? A loud cacaphony of yes-no is heard in reply. The phenomenon of the psychiatrist in the courtroom, the battle of the experts, has received sharp attention from critics both within and outside the pro-

fession. Many feel that psychiatry contributes little to the issue of man's capacity to be responsible for a crime. Wiseman(54) along with other critics(12, 55-58) feels that psychiatry has only confused the issue of criminal responsibility and some go so far as to suggest that the profession should be barred from the courtroom(59). Szasz (60-62) is, understandably, extremely wary of psychiatric intervention in the legal system. He feels that in entering the arena of the courtroom, the psychiatrist attempts to become involved in ethical and moral issues which are not his province. He states, "Psychiatry has no special competence in matters of responsibilities and should avoid ethical and moral obligations which have been forced upon him." He is critical of "psychiatrization" of the law, believing that ultimately this procedure is not conducive to the needs of society or to the criminal offender. Hakeem(12, 57), an associate professor of sociology at the University of Wisconsin, feels that psychiatrists represent a menace to the administration of criminal justice. He states,

Psychiatrists have been engaged for a long time in a relentless and extensive campaign to extend the scope and power of their influences in the administration of justice and . . . in the policies and practices of correctional institutions and agencies. This campaign has now reached reckless and irresponsible proportions and there has been a resort to questionable tactics. Unseemly as it may appear, the profession of psychiatry has even gone so far as to bestow prices and honors and unabashed flattery upon judges who have handed down decisions that it sees favorable to its cause. And in the service of this campaign psychiatrists have produced a barrage of literature much of which is propagandistic in nature.

He questions the ability of any psychiatrist who serves as an expert on most any aspect of human behavior, and cites the work of Taft(63) whose research seemed to demonstrate laymen to be superior to psychiatrists in the judgments of peoples' motivations, emotions and personality traits. Other critics such as Hartung(2) and Sutherland(64) deplore the "need of other disciplines to genuflect before psychiatry" and are particularly concerned with the power of psychiatry to influence legislation with regard

to sexual crimes. Schuessler and Cressey (65) have been critical of psychological tests when applied to criminals and noncriminals because of the lack of distinguishability of the two groups. Such eminent psychiatrists as Glover(66), Schmideberg(67) and Bowman(68) have raised doubts as to the current status of our effectiveness in treating criminal offenders. They strongly fear that psychiatry may have oversold its capabilities.

Many thoughtful theological scholars have seen dangers in the psychiatric approach to problems of living. Some theologians are concerned with the possibility of a psychotherapist's advice being adverse to church doctrine. Walker and London (69), Kaplan(70) and Mowrer(71) are concerned lest clergymen abandon their own spiritual powers of healing and be seductively led to entrust all problems of life to the psychiatrist. Another theologian, Hutchinson(73), is concerned with the "cult of reassurance" promulgated by psychiatry which rejects any note of pessimism and fails to deal with "the realities and failures of life." Mode(74) and Allers(35) fear that psychiatry must almost by definition be an entirely humanistic concept which leaves little room for spiritual values. Leaders in the Catholic Church have had many reservations as to the implications of psychoanalysis(37, 75, 76), psychotherapy and various biologically based therapies, feeling that psychiatry may play a role in providing reassurance, thereby reducing guilt-feelings and encouraging permissiveness. Other theological scholars have raised similar issues(77-79). Fellow psychiatrist Cleckley is extremely concerned with the tendency of psychiatry to justify abnormal forms of sex behavior as being within the realm of normal, feeling that we often imply that such behavior is permissible and right. Alfred Kinsey(81) on the other hand views psychiatrists and psychiatry as being too moralistic.

The ventures of psychiatrists into areas such as political science, international relationships and the meaning of philosophy and history has also brought forth a chorus of critical voices. Cussan(82) feels that psychiatrists are attempting to accept too much social responsibility for all health

problems and that it is premature for psychiatrists to "look for fresh worlds to conquer." Fishman(77) and Williams(83) have vigorously protested the tendency on the part of the psychiatrists to interpret the beliefs of philosophers, the personalities of historical characters, and the personality traits of Biblical characters in the light of psychological and psychoanalytic ideas. Dession(84) cautions psychiatry to "look at its own value-judgments, its own viewpoints and its own terminology in the light of their implications for broader social scene." Even so ardent a protagonist as Mike Gorman(85) notes that the public tempts the psychiatrist to become an expert in too many facets outside his field and that this results in the psychiatrist exaggerating his own capacity. Indeed, communications by members of the profession (3, 12, 86, 87) have cautioned against the seductive lure of those who see the psychiatrist as a sort of super-person, and who conceive of a new world where good psychiatrists rule and Platonic perfection is achieved.

In approaching the fifth heading, we ask the question of whether the current functioning of psychiatric profession best meets the needs of our society. Critics in this area again range from the profound to the nasty and picayune. Some of the most vocal criticisms in this area come from fellow physicians. The psychiatrist's unique relationship to other physicians and to medicine in general has evoked widespread discussion. Those psychiatrists who earn the major portion of their living through practicing psychotherapy and who tend to give little or no courtesy have been sharply criticized by Jacques May(88), Dean(89), various county medical officers, and even a society here and there. Further, the tendency of the psychotherapeutic physician to avoid the traditional colleague relationship when working with some member of the doctor's family, coupled with the general reluctance of many psychiatrists of the psychotherapeutic school to establish close liaison with medical practitioners in their communities has provoked widespread disapproval by persons within and outside the profession, including Bailey(10), Felix(90),

Galton(29) and Appel(91). Gorman(85) has described the concern of many American educators about the unfortunate effects the various psychoanalytic institutes produced when they divorced American psychiatrists from American medical education. Commenting about the reciprocal loss which results from this estrangement, Appel(91) states, "the isolation of analysis from medical clinics, hospitals and faculties hinders its wholesome and effective development."

The battle continues to rage as to whether the art and science of psychotherapy should remain the exclusive province of the profession of psychiatry. A recent report of the Joint Commission of Mental Health(92) stresses the need to utilize other professions in meeting the mental health needs of the nation. Such eminent psychiatric scholars as Kubie(93) have questioned whether the medical degree alone is most appropriate for the profession of psychotherapy and has suggested an alternative degree in psychological medicine embodying training in both psychology and medicine as superior to the traditional requirement. Rogers(94) has suggested that 6 months of training for a genuine and empathic person, be he physician, clergyman, psychologist or sociologist, may suffice for the development of a skilled client-centered psychotherapist.

Psychiatrists have been roundly criticized by many for unwillingness to accept symptomatic relief and their insistence upon lengthy, ponderous psychotherapies. Psychiatrists have also been accused of an unwillingness to be involved in some of the less glamorous and less lucrative areas of practice, such as court work, administrative and institutional psychiatry. Bailey(10) urges psychiatrists to "return to the laboratories and asylums which they are so proud to have left." A number of critics both within and outside the profession, including Natenberg(95), Ludwig(96), Campbell(97), May(88) and Dean(89), are perplexed and dismayed at the "exorbitant costs" of psychiatric treatment and deplore the heavy expense and considerable investment of time which is involved. Someone has coined the expression, "What this country needs is a good five buck therapist."

SUMMARY

We have presented a small sampling of contemporary critical writings about psychiatry. Serious questions have been raised regarding almost every aspect of our theory, our practice, and our place in society. Understandably, any clinician actively involved in treatment activities needs to have a certain freedom from obsessive rumination and doubt. However, training and practice which occur in a setting that recognizes the possibility of truth in criticism while sometimes exquisitely painful may be the healthiest of all for the nurturing and growth of psychiatry. A mature psychiatrist hears what the critic has to say, without condescension, without automatic interpretation of malicious motivation and with recognition that the critic may be right. One may say, in the spirit of Milton's *Aeropagetica*, "Truth is compared in Scripture to a streaming fountain. If her waters flow not in a perpetual progression, they sicken into a muddy pool of conformity and tradition."

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INCOMPETENCY TO STAND TRIAL : PROCEDURES, RESULTS, AND PROBLEMS¹

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The determination of one's competency to be tried or punished for an alleged crime is not only an important legal question but, as all such, symbolizes a vital social principle. It represents mankind's painstaking efforts to deal with the problem of simultaneously safeguarding the rights and interests of both the individual and society. Any piece of law, regardless of its technical perfection, which fails to cope with this dual responsibility must soon be discarded ; for it is not the case that society derives its power and force from its law but rather it is society which provides meaning and authority to its law. It is, then, the fearsome spectre of an individual or a society out of control which lends to the question of competency to stand trial its deep legal and psychological significance, and which provides this question with its vital social relevance.

Recognition of such relevance has led some to question the very concept of competency to stand trial(3). But, in our opinion, such questions, all too often based solely on psychiatric theory or legal principle, are premature. Rather, we feel the first step is to examine what in fact takes place when this concept is applied and to assess the results of this application. In undertaking the research to be described, it was our hypothesis that both the individual and society have become the victims of a principle designed for their mutual protection.

The Principle of Competency to Stand Trial. In brief, the problem of competency to stand trial consists of a determination of

the accused's mental status not in relation to the crime, but in relation to his trial. The concept comes to us out of common law (4-6), which held that an individual could not be required to plead to an indictment or be tried for a crime when he was so mentally disturbed that he could not understand the nature and object of the proceedings against him, understand his own position with reference to such proceedings, and to assist in his defense. Michigan, like most states(3), has retained this common law test of incompetency in its statute and orders that if an individual be found to be incompetent by either judge or jury, he shall be sent to the Ionia State Hospital. The statute further requires that "two or more reputable physicians" and other relevant witnesses shall offer testimony at the incompetency hearing. The issue of incompetency can be raised by the accused, the prosecuting attorney, or the court. We wish to emphasize that in the Michigan statute the terminology used to describe what shall be done with an individual found to be incompetent does *not* use the word "incompetent." Rather it states that if an individual is found "insane" he shall be sent to Ionia State Hospital "to remain until restored to sanity"(7). This remarkable confusion of designations not only suggests the bewilderment of those who wrote the statute, but has had a powerful influence on what actually happens to persons committed as incompetent to stand trial.

The Study. We undertook to study the question of incompetency as it is handled under Michigan law with special attention to the respective roles of the psychiatrist, the lawyer, and the hospital, and to the consequences of incompetency proceedings for the client and for society. To carry out the project, two psychiatrists and two senior law students conducted field research at the Ionia State Hospital, to which place individuals found incompetent to stand trial in Michigan are committed.

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The patient population at Ionia was 1,484 as of Aug. 1960, of which 705 were those committed as incompetent to stand trial. Conclusions regarding these cases were based on a study of 77 records selected at random, representing approximately 10%. In addition to patients currently in the hospital, there was another category of individuals who had been returned to the committing courts. In a 6-year period, from July 1954 to Dec. 1960, 105 persons had been so processed. On the basis of a random selection of 1 in 5 records we studied 21 such cases. A third category consisted of 200 patients committed as incompetent who were currently on parole. Twenty records of such persons were studied as well as 11 records of persons who had been on parole at one time but had been discharged from parole with permission of the committing court, but without being returned to court for disposition. All records were examined for background information regarding the individual, the nature of the judicial proceeding with special emphasis on the legal and psychiatric role in such, the management of the individual at the hospital and his hospital experience and, in appropriate cases, the results of parole, discharge from parole, or return to committing court. In addition, the staff of Ionia State Hospital was interviewed and staff meetings were attended. Finally, 11 patients were interviewed by the participating psychiatrists.

A second phase of the investigation included a study of the pertinent statutes, and their content and intent was measured against the actual results of the incompetency proceedings.

Mention should be made of the difficulties in obtaining complete information. Such pertinent data as who initiated the incompetency proceedings, the physician's testimony, whether or not the defendant had counsel, various legal documents, and a multitude of other highly germane facts were missing from these records. Not only does this suggest deficiencies in recording and communicating information but it is, in our opinion, indicative of the understandable perplexities of those involved in the entire procedure of competency and reflects their confusion as to what the procedure is really about, what material has

significance, and what should be done with it.

RESULTS

Raising the Issue. The Michigan statute requires that the court shall hold a sanity hearing to determine the accused's competency when one accused of a felony "shall appear to be insane" and "if it is claimed that such a person became insane after the commission of the felony with which he is charged . . ." While these words may appear to be sufficiently clear and concise, our findings suggest that either they are not so clear as they might seem or that the courts tend to use the concept of competency for some purpose other than that intended by both common law tradition and the Michigan statutes. In support of this we point out that there was a marked discrepancy between different courts as to the use of the competency principle. This discrepancy was vastly greater than that which would be expected on the basis of statistically random occurrence of significant mental illness in those accused of committing a crime. This observation raised the question as to what sorts of factors were responsible for the initiation of competency proceedings.

In this regard, two factors were strikingly evident. One related to the crime and the other to the defendant. Crimes associated with incompetency proceedings were most often those that were especially heinous or revolting such as bizarre murders and sexual offenses, or crimes which were clearly pointless such as repetitive minor offenses without hope of material gain. The types of defendants involved in questions of incompetency were most frequently somehow pitiable or puzzling. They might be the very old or the very young, the borderline mental defective, or the physically handicapped. In many cases, nothing in the record indicated (unless the factors listed above be so interpreted) that the defendant appeared "to be insane" nor, in most records, was there anything to suggest that it might be "claimed that such a person became insane after the commission of the felony with which he is charged." Our conclusion is that the issue of the defendant's competency to be tried was most frequently

raised not on the basis of the defendant's mental status but rather was employed as a means of handling situations and solving problems for which there seemed to be no other recourse under the law.

Such findings coupled with the wording of the statute suggest an immediate and significant impasse in competency proceedings. It is difficult to understand how such proceedings could be related to the actual mental status of the defendant if non-psychologically trained and oriented personnel are charged with raising the issue. In such a situation, it seems inevitable that many offenders with less obvious and less bizarre yet serious mental illnesses which might constitute grounds for the finding of incompetency will be overlooked (4-6, 9).

The Psychiatrist's Role. As pointed out previously, the physician's or psychiatrist's role is quite clearly defined by law. The physician should function as an expert witness. It is his job to offer a scientific description of the individual to the court in a meaningful and serviceable fashion with clear-cut substantiation of his conclusions (2). It should be noted that the merits of such testimony and their relevance to the legal question of incompetency is a matter to be decided by the judge or jury. In this study we found that almost without exception the psychiatrist's role was grossly distorted. The vast majority of the records studied indicated that the psychiatrist confused the legal standards for incompetency with those of responsibility.⁴ Often part of the psychiatrist's report to the court would contain reference to standards of incompetency, and another part would refer to standards of responsibility. For example, one record stated, "This man does not know right from wrong, he is incompetent, he is not able to assist his counsel, he should be committed to an institution because he is insane and should be released only when he is found to be sane." It should be stated that the preceding example is in no way an

unusual or unique statement. In those records in which there was no confusion between standards of incompetency and standards of responsibility, such confusion was lacking by virtue of the use of a prepared statement. This statement consisted of simply parroting the language of the statute with the insertion of the appropriate negative or positive words. In only very rare cases were the grounds for the psychiatrist's opinion presented to the court. It was clear that the court had to depend upon the psychiatric opinion and conclusion and accept this or reject it on an arbitrary basis.

In addition, the concepts of incompetency and responsibility were often used interchangeably by the lawyers and the courts. This would suggest that if the psychiatrist were to perform his appropriate and defined role, the courts would in all likelihood not make use of such testimony. It seemed clear that the aim of many of the incompetency hearings was simply to dispose of the issue in as little time as possible, and that the courts requested that the psychiatrist tell them what to do.

Another distortion of the psychiatrist's role must be mentioned. The records studied at Ionia State Hospital revealed that frequently the psychiatrist assumed the role of judicial expert. In the case of P.F., the psychiatrist's report read, "This man is a chronic alcoholic. He is impulsive and extremely dangerous. He is not treatable and should be sent to the hospital for segregation for a good long time, if not for life." Not recognizing the purpose of the legal proceedings and not recognizing or misapprehending his role in these, the psychiatrist took it upon himself to make moral and judicial decisions.

The Legal Role(3). It must be remembered that the entire question of incompetency and the procedure for such a determination is a legal matter. Without some new approach or drastic innovation in the current approach, it must ultimately be the law's responsibility to see that the process and results of incompetency proceedings fit the intentions inherent in the legal principle. Our study indicates that this is not done. The difficulty appears at the outset when the courts fail to use the physician in his appropriate role. The majority of the

⁴ The Michigan standard for responsibility may be stated as follows: the individual must know the nature and quality of his act, must know that the act is wrong and must be able to adhere to the right and avoid the wrong. This, of course, applies to his mental status at the time of the commission of the act.

psychiatrists' reports were empty and meaningless, and yet were accepted and acted upon by the courts as if they contained information which could be construed as evidence and, as such, decided upon.

Considering the meaning and purpose of incompetency concepts, it would seem that if the court has any interest, it should be to ensure that the incompetent individual be tried as soon as he can be considered competent. With this in mind, we were amazed to learn of the almost total lack of interest the court took in the defendant after his commitment. On only rare occasions would the court contact the hospital regarding the status of the patient. In such cases the contact was either a mechanical follow-up by a clerk, or the crime involved was such as to create intense public pressure. The only really common communication between court and hospital occurred when the hospital requested permission for some specific program for the patient. In almost all cases such a request appeared to be granted automatically. It may be agreed that it is commendable that the courts cooperate with the treatment but it seems unwise that in so doing they lose their guiding influence on a procedure which has meaning only in a legal framework. Such a situation is epitomized in the Michigan practice of granting "with the committing court's permission" parole(7) to individuals committed as incompetent. Conceivably some patients might be both capable of parole and incapable of standing trial, but surely such individuals would be rare. The three-pronged test for competency can be considered not especially stringent. It is not nearly so stringent as the standards set by Ionia State Hospital for parole. Yet, the courts continue to grant permission for parole which can allow the "incompetent individual" to function in society for as long as three years before any final conclusion to the legal process.

If it be argued that the court, in employing the concept of competency for purposes other than those inherent in the common law tradition and statute and in relinquishing their interest in the defendant after his commitment, are attempting to reach toward some more humane goal than imprisonment, it can be pointed out that such humane goals are not reached in terms of

the aftermath of incompetency proceedings. To put the matter bluntly, in many cases a prison sentence would be preferable to the presumably more compassionate act of committing an individual as incompetent.

In essence, the result of Michigan's management of the problem of incompetency is the incarceration, often for life, of persons without benefit of trial or the safeguards of civil commitment procedures. For example, J.C., a 60-year-old man, was committed as incompetent pending trial on a charge of gross indecency in 1926. He is still under treatment and is now described as showing signs of "simple psychosis."

If it be argued that such situations are simply due to the realities of the chronic illness or to the feelings of understaffed and over-crowded hospitals, we would point out that it was our opinion that many persons were committed to Ionia State Hospital who were not in fact incompetent to be tried. Also, it was our judgment that with existing treatment methods and facilities, the majority of individuals committed as incompetent could be readied for trial within a matter of weeks or months. A final rebuttal to the possible argument that a court could have little influence on the illness of an individual committed as incompetent is our observation that when intervention on behalf of a patient by the court or lawyer (or even continued interest by the family) did occur, closer attention was invariably paid to the patient and usually resulted in the patient's return to court for trial.

Role of the Hospital. As might be expected, the processes and distortions we have described are not without their effect on the hospital. The confusion existing at the time of the incompetency hearing follows the defendant to the hospital. Cases were frequent in which the hospital staff disagreed with the diagnosis made by the examining psychiatrist at the time of the hearing. It was also not uncommon that the hospital staff, in view of the patient's mental status, could not understand why the patient had been committed. The label "incompetent" was a familiar one to hospital personnel, but the meaning and implications of this label were not clear. This being the case, it was not surprising that the goals of treatment were vague and in-

consistent. In an attempt to combat this, the staff apparently bypassed entirely the legal intent behind the incompetency principle and sought to perceive and manage the incompetent patient as they would patients committed to them for other reasons.

The problem is further complicated by the alternatives available with regard to disposition. The staff at Ionia State Hospital can, of course, continue to keep the incompetent individual as an inpatient; or, under the statute, the patient can be placed on parole. Finally, patients may be discharged to the committing court for further disposition. It seems obvious that the standards for these alternative dispositions would vary; and furthermore, that they would be related somehow to the grounds on which the patient was committed. This is not the case. Material from patients' records, including physicians' progress notes, reports of staff conferences, and discharge and parole certificates, left no doubt that the hospital staff was applying very high and invariant standards of mental health to these patients. Such phrases as "lacking in insight into his crime," "immaturity," "continues to be hostile," "uncooperative," "homosexual activity continues," and many other similar descriptions occurred constantly. In addition, less psychiatrically oriented criteria were applied, such as whether or not a patient would confess to his crime, whether or not a patient could recall his crime, and whether patients were cheerful, happy, well adjusted on the job, *etc.* At no time was any reference noted to the actual standards legally required for competency.

Another incongruity enters the picture when one considers the requirements to be met by an individual on parole. While on parole the patient is required to hold a job and make a successful social adjustment. He may not change his residence or marital status without permission from hospital authorities. Similarly, he must obtain permission to leave a circumscribed geographical area. He must not drink, drive a car except as necessary, or associate with questionable characters. Such standards of adjustment and control must be maintained for 3 years before he is eligible for discharge.

There is no question but that the requirements made of patients and parolees go far

beyond those necessitated by the legal test for competency and, indeed, would tax the psychological capacities of many "normal" persons.

Role of the Patient. We come now to what should be the most significant consideration in this entire process. Legal principle behind the concept of competency to stand trial is plainly the protection of the individual and society. It need not be said that the physician's duty is to his patient. How, then, has the client fared? It is most evident that his interests have not been served. The incomprehensible, inconsistent, and arbitrary operation of the incompetency procedure has left him as a *persona non grata*. In all likelihood, and this was borne out in interviews with patients, he has come to distrust the doctor, the legal system, and society itself. He is confused, as is the hospital, regarding his status and identity. Questions as to whether he is a criminal or a patient are left unanswered. Hopes and fears regarding the future remain unattached to any legal or psychological context or framework. Many patients are aware, in a conscious sense, of what they have done and why, and hence cannot conceive of what is expected of them or toward what they should strive. This internal confusion is reinforced by the perception of the perplexity and aimlessness of the hospital and of the lack of interest by outside persons and agencies. This leads to further hopelessness and eventual deterioration. It may be stated that many of the patients committed as incompetent to Ionia State Hospital do not consider it a hospital but rather a prison, and an extremely undesirable prison at that. For the majority it is a prison to which one is committed on an arbitrary and incomprehensible basis and one in which concepts of parole, treatment, or discharge gradually shift from unlikely possibilities to forlorn hopes, to psychotic delusions.

If such statements seem strong we may point out that our study indicates that in a 6-year period only 105 persons committed as incompetent were returned to the committing courts for further disposition. (This covers a period from Jan. 1954 to Jan. 1960.) Further, our findings indicate that well over one-half of the individuals committed

as incompetent will spend the rest of their lives confined to the hospital. In a strictly legal sense, many persons are deprived of the constitutional guarantee for a "speedy trial" (8), and hence deprived of the opportunity to be found innocent (1), not guilty by virtue of being not responsible, or at the very least, guilty with an earlier start on a prison term. (Time spent as incompetent in the hospital is "dead time" in terms of any future sentence (10).)

CONCLUSIONS

We have described the breakdown of a vital social system necessitating collaboration between two highly respected professions. The confused statute regarding incompetency to stand trial and its distorted application by both physician and lawyer tends to subvert the social and legal principle inherent in the concept of competency and in so doing to sacrifice the professional identity of both lawyer and physician as well as their appropriate functions as assigned by society and which their client has the right to expect.

In this process, the legal position becomes untenable. The court cannot use the psychiatrist effectively because it cannot understand him and because it does not demand that which could be understood. Therefore, in lieu of using his competence, it must accept his pronouncements and tacitly his usurpation of its role. The valued and traditional legal insistence on the right to determine fact is passively given over to the acceptance of opinion as fact. The result is that from start to finish the physician occupies a foremost yet counterfeited role in incompetency proceedings. The abhorrence of the psychiatric discipline for actions based on value judgments involving the moral and ethical behavior of the patient is well known. Yet, in dealing with his legal brethren, the psychiatrist seems willing not only to evaluate his client's psychological status but to judge his behavior, evaluate its social significance in an ethical sense, and to decide the fitting consequence of such behavior. In short, often the physician usurps the function of the law and in so doing relinquishes his therapeutic opportunity. The process all too often ends at the hospital where we have seen the therapeutic

confusion, the contradictory practice of parole, and the dismal treatment results.

The individual truly has been victimized by a process designed to protect his rights and it may be stated that a social system that victimizes its individuals will soon find itself the victim.

DISCUSSION

The findings presented suggest some readily available remedies for the difficulties in and the unhappy results of competency proceedings. We would suggest that attention be paid to the intentions and goals of competency proceedings so that such proceedings be restricted only to those criminal defendants who appear to be appropriate objects for competency determinations. In addition, courts and attorneys could profitably clarify in their own minds what sorts of information they would require from the psychiatric expert, inform him accordingly, and take steps to ensure that the expert provides this in understandable terms and with sufficient scientific data to support his conclusions. Finally, the law should recognize that the entire matter of competency to stand trial is a legal matter and that the legal influence does not stop when an individual is found to be incompetent. Undoubtedly, efforts should be expended to educate psychiatrists, particularly those responsible for the hospital management of the incompetent individual, as to the goals of the competency proceedings. Specifically, it should be pointed out that such proceedings do not stand in lieu of other types of legal disposition, but rather they represent a step in the legal process leading toward some more definitive disposition.

Turning to the psychiatrist and hospital, we suggest that they also have a responsibility for many of the problems which we have elucidated. Those psychiatrists and those hospitals who will, of necessity, be involved in legal proceedings, specifically incompetency proceedings, should attempt to familiarize themselves with the legal framework within which they will be asked to work and to attempt to arrive at some understanding of the methods and objectives of this framework. Certainly, no psychiatrist should continue to provide some

type of psychiatric service if he is unaware of what is required of him. Under such circumstances, he should directly request information as to what is required and if he is unable to obtain such, or does not feel that he can function within the specific context, he should then remove himself. Caution should be exerted so as to ensure that the concept of competency and the proceedings of the competency determination are not used by the psychiatrist for other purposes regardless of how rational such purposes might seem. In essence, it appears that several changes could be readily wrought which would correct some of the procedural and mechanical difficulties described. Still, we would ask whether even if all such changes were instituted, any real progress would be made with regard to the basic question which the concept of competency to stand trial seeks to answer.

We submit that the true difficulty underlying the surface problems which arise from competency proceedings lies in the fact that on both sides, namely, law and psychiatry, there exists an assumption of the existence of a comprehensible standard of competency to stand trial which can be applied to a human being, assessed within a human being, and communicated to other human beings. In support of this, we would like to analyze the competency criteria as used in Michigan. The first two of these criteria, *i.e.*, "whether such person is (1) capable of understanding the nature and object of the proceedings against him and (2) of comprehending his own condition in reference to such proceedings . . .", seem to us to be inseparable. The question is, what is the actual meaning of these criteria in terms of the parties involved? Surely, with regard to the defendant, and excepting a few severely regressed mentally ill persons or severely organically damaged persons, any person is capable of understanding what is happening to him and his position in regard to this, at least in terms of his current or characteristic way of appraising his external environment. It seems to us that in terms of "understanding," one's understanding is just as valid if he presumes that he is the victim of a widespread communist conspiracy to imprison him or if he is aware that he has acted so as to be

the object of the normal machinery of the legal system. Therefore, it would seem that if we apply the standard in terms of the defendant, that all, excepting a very few, could be considered competent. However, it is true that if we apply these criteria as translated into the legal framework, a given defendant might well not be able to understand the nature of the legal proceedings and his position with reference to them. This, however, raises the question as to whether any person other than perhaps a lawyer is really capable of understanding the complex legal apparatus with which he is associated. Surely, the intricate system of legal tradition, statutory law, philosophy, *etc.*, and the multiple implicit and explicit ramifications of these cannot be truly comprehended by a person outside the legal context. By the same token, we should not expect that a given defendant could truly comprehend standards of competency as translated into the terminology of ego psychology as employed by a psychiatrist. It seems that depending upon one's context and framework that almost all defendants can be considered competent or that almost all can be considered incompetent.

Turning now to the third criterion for determining one's competency, *i.e.*, that such a person be capable of "assisting in his defense in a rational or reasonable manner," we find a similar problem. If we presume that the intent of a criminal trial is to arrive at the facts surrounding the behavior in question and that among those facts, the concept of *mens rea* is to be considered, then it would seem that all that has happened, including what the defendant thinks has happened or thinks about what has happened, should constitute assistance to his defense. Using the example above, it would seem important to the individual's defense and to those charged with deciding on some appropriate disposition of the individual to know whether he performed the criminal act on the basis of irrational or perhaps psychotic imaginings of a communist conspiracy or that he feels that he performed the criminal act as a result of an illegal and antisocial wish to take for himself that which belonged to another. It is hard for us to conceive how any individual, again perhaps excepting

certain deeply regressed mentally ill persons or severely damaged organically ill persons, could not be of assistance in his own defense. Again, if, however, we consider the individual's ability to assist in his defense from the legal viewpoint, which might include such things as specific recall of each event complete with times, places, persons, *etc.*, and particularly if we rely on this individual to assist his counsel with regard to his motives and thoughts concerning the crime, then surely many defendants must be considered incompetent. In this sense, again we must raise the question as to the extent to which any person could be considered fully competent. Such difficulties also present themselves with regard to the psychiatric framework. And, again, as with the first two criteria, none or all defendants can be considered competent or incompetent.

It seems clear that concurrence of opinion between psychiatry and law can take place only in the case of those defendants who are so ill, either psychically or organically, as to be uncommunicative or to present such a public spectacle as to embarrass our sensibilities of fairness and decorum.⁵ While we grant that such cases seem to validate the existence of comprehensible criteria regarding a defendant's competency to be tried, we also point out that such persons hardly require the expert testimony of psychiatrists as to their incompetency, or elaborate proceedings to establish this. In other words, it is in just those cases in which the nature of the emotional disturbance is such as to tax the capacities of both lawyer and psychiatrist in their attempts to deal with him in some fair and appropriate fashion, and who most require some safeguard which might ensure this, that we find ourselves unable to establish satisfactory criteria or communications.

We would like to offer two suggestions which seem more truly relevant to the problem of competency to stand trial. Admitted-

ly, these suggestions raise highly complicated and controversial issues with which we do not intend to deal in this paper, but it seems that the issues must be raised. First, attention must be given to welding criteria which, while admitting that they can never have complete relevance to the aims and methodologies of both law and psychiatry, can at least be sufficiently relevant so as to serve the mutual goals of all concerned. In this regard, it must be borne in mind that "all concerned" includes not only law and psychiatry, but the individual and society. A second and somewhat broader approach would be to give consideration to the total contexts in which persons accused of criminal behavior are to be handled. Is it wise to handle such persons as we now do in what is essentially a strictly legal context with occasional consultative contributions from the behavioral sciences, or would it be wiser to deal with such individuals within the context of the behavioral sciences while providing certain safeguards and procedural requirements from the legal system?

While it has been said repeatedly, it remains true, that if rehabilitative efforts using the current available knowledge regarding the management and treatment of those who have demonstrated themselves to be psychically and socially deviant were applied, problems such as one's competency to be tried or one's responsibility to be punished would tend to disappear.

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⁵ It is interesting to note that the conclusion that any real use of the concept of competency can only apply to certain extremely ill and obviously inappropriate individuals is identical to the conclusions reached by many with regard to M'Naghten's rules for responsibility.

THE FACADE OF CHRONOLOGICAL AGE : AN INTERPRETATIVE SUMMARY¹

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To look anew at some of the prevailing ideas and previously reported findings concerning both the processes of human aging and the nature of aged persons, we undertook a series of collaborative studies involving 21 investigators representing a number of separate academic disciplines and medical specialties in a pilot project beginning in Dec. 1955. We had two basic research strategies in mind: first, the selection of the medically healthy, community-dwelling aged, so that we might maximize the opportunity of studying the effects of *time*, or chronological aging, itself and minimize the effects of sickness, institutionalization, and social adversity; second, the introduction of the collaborative, multidisciplinary approach to enhance the opportunity for a more comprehensive evaluation of the many factors known, or believed, to determine the façade of chronological aging.

Such an approach seemed particularly appropriate in view of the fact that so much of the literature concerning the aged and aging had heretofore derived principally from studies of the sick and institutionalized. The dominant theme had been upon *decline*. Little appeared to be known about healthy and socially autonomous aging. We knew that certain cultural stereotypes affected the contemporary picture of the aged and the process of aging.

We conceived aging to be a process of change involving all aspects of the organism but not necessarily occurring in an inter-related or synchronous manner. In order to examine a broad range of physical, physiological, psychological, psychodynamic, and social processes to gain some understanding of the changes occurring with advancing age, we therefore undertook an intensive study of "normal" men above the age of 65 years. How might we disentangle the

contributions of disease, social losses, pre-existing personality, and the like from changes that might more properly be regarded as age-specific? This was the broad screening question.

Illustrative of some specific questions which investigators held in mind were: 1. Are the changes in cerebral blood flow and cerebral metabolic rate previously described in the literature the result of aging of the nervous system or the result of disease? 2. To what extent is the postulated slowing in speed of psychomotor skills the result of a general process of change in the CNS? 3. What personality factors contribute to adaptation and maladaptation of the community-dwelling older individual to the crises of late life? 4. How do environmental factors, of cultural background and of immediate circumstances, contribute to adaptation (maladaptation) of the aged?

The term "aging" may be used to denote characteristic patterns of late life changes, which are eventually shown by all persons though differing in rate and degree. Models of aging may vary and different antecedents of biological, environmental, social or random nature have been advanced. Models will continue to be introduced so long as the phenomenon remains the mystery that it is to us today.

Although the purpose of the report is to emphasize findings and interpretations likely to be of *particular interest to the psychiatrist*, this multidisciplinary project on human aging as a whole is our subject.³

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

NIMH multidisciplinary study of community-resident healthy aged.

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³ Dr. Seymour Perlin, now Chief, Division of Psychiatry, Montefiore Hospital, New York, N. Y., and I were the psychiatrists participating in this project. Dr. James E. Birren acted as coordinator. A volume, *Human Aging: A Biological and Behavioral Study* (1) reporting the methods, findings and interpretations of the entire project, was edited with Drs. James E. Birren, Samuel W. Greenhouse, Louis Sokoloff and Marian Yarrow, representing psychology, statistics, neurophysiology and social psychology respectively. Dr. Walter Obrist, presently of Duke University, conducted the EEG studies. Drs. Mark Lane and Thomas Vates, and later Dr. Leslie Libow, served as the medical internists in this project.

Sample. Males were chosen as subjects for several reasons. The likelihood of profound endocrinological changes in the female suggested the advantage of male subjects in our pilot study. The predominant use of male subjects in the research literature on aging provided opportunities for comparison. Limiting the study to one sex also simplified research administration.

Screening for medical health was stringent and a final sample of 47 male volunteers with a mean age of 71 and range of 65 to 91 was obtained.⁴ The sample is not offered as representative⁵ and, in fact, certain features raise issues as to the general applicability of the findings. However, we believe that careful specification of the population makes possible comparisons with other groups. We also believe that wherein relationships were found (as opposed to descriptive characterization), the likelihood of general applicability, or at least its further testing, is possible.

The social and cultural data should be of particular interest to the growing field of social psychiatry. These subjects lived in urban environments at the time of the study and in most cases had done so for long periods. Twenty had been born in foreign countries, having migrated in childhood or early youth. The religious breakdown was not representative of the American population as a whole. There was a wide range of educational background—men with college degrees, men with almost no formal education. (The actual educational level of any aging group is extremely difficult to estimate in terms of our present educational structure.) The estimated median years of formal education of the 47 men was 9.5 years, which is somewhat higher than the median indicated by the 1950 census for the same age group in the general urban population of the United States (8.3 years).

Many occupations were involved, over-representing the higher status white-collar

occupations and under-representing the lower status manual occupations, e.g., 23% had been professional persons during their work careers. Of the 47 men, 32 were fully retired at the time of the study and had been so for an average of 7 years. The annual average income received between 40 and 60 years of age was \$4,300 with a range of \$1,200 to \$10,000. At the time of study, the median income was \$3,100 with a range of \$500 to \$14,000. (Because of certain internal discrepancies within the data there was reason to wonder at the reliability of income figures.) The later years of life had brought fairly severe income reductions for almost half the men. The majority were living in intact families, 31 in their own households with their wives and 6 in the households of relatives.⁶

In summary, it may be seen that the men in this sample appeared to be in somewhat more fortunate circumstances than the general aged population of the United States. Not only did they have generally excellent health, one of the basic reasons for their selection, but they had better than average educational backgrounds and better than average incomes: they tended to retire with fair economic comfort and to continue to exist in private households with their wives in urban environments.

Except for the fact of community residence, selection did not depend upon other social and cultural characteristics. Since there were variations within social and cultural categories, however, it was possible to examine for any effects.

Medical Characterization. On the basis of extensive medical examinations, the sample was further divided into two groups: Group 1, with 27 subjects, was of optimal health without apparent disease; Group 2, with 20 subjects, was also of good health, but evidence for asymptomatic or subclinical disease was found. Of these volunteers 10 showed signs of minimal, essentially extra-cerebral, arteriosclerosis, such as elongation and tortuosity of the aorta, EKG abnormalities, absent peripheral pulses, x-ray evidence of calcification in the aorta or carotid siphon, or retinal arteriosclerosis.

⁴ We are deeply indebted to Mr. Arthur Waldman, Mrs. Sara Blumberg, Drs. Nathan Blumberg and Stanley A. Tauber of the Home for the Jewish Aged in Philadelphia, Pa.; and to the National Association for Retired Civil Service Employees, Mr. Frank J. Wilson, President.

⁵ It would have been desirable to have obtained subjects at random from the community by some procedure of probability sampling.

⁶ According to the 1950 census, 3.1% of the population 65 and over were in institutions, including mental hospitals, but not general hospitals.

The clinical diagnosis of arteriosclerosis is limited by current methods of detection. Group 1 had no detectable evidence of arteriosclerosis; the 10 in Group 2 did. The remaining 10 members of Group 2 were so classified because of such findings as minimal to moderate rheumatoid arthritis, asymptomatic elevation of the level of blood uric acid, and diet-controlled diabetes.

That arteriosclerotic changes may be present in the vascular system of Group 1 is more than possible. Nonetheless, it seemed appropriate to classify our subjects on the bases for detection available. In view of our significant findings, we consider our classification to have been useful.

Moreover, in our 5-year follow-up, it was found that arteriosclerosis, as classified here, statistically significantly related to mortality.

Methods. Two broad research strategies have already been described: a third major tool was that of statistical control and analysis of the data. All data collected by individual investigators were maintained by the statisticians and the findings of each discipline were not made known to other investigators to minimize the possibilities of bias. In addition to the application of customary statistical analytical techniques, the data of individual disciplines were reduced and various principal component and regression analyses undertaken.

Each of the 47 men were brought to the Clinical Center at Bethesda, Md. where they remained for 2 weeks and proceeded through the series of investigations following a routine schedule.⁷ They resided on a unit for experimental subjects (normal controls) where nursing observation as well as customary research nursing care was conducted.

Methods of Individual Disciplines. The nitrous oxide procedure of Kety-Schmidt was utilized in the study of cerebral blood flow and metabolism.

EEG's were recorded on an 8-channel Grass electroencephalograph, using both bipolar and monopolar techniques. Frequency analysis was used as well as clinical reading of the tracings.

Twenty-three tests for measuring cognition and psychomotor responses were done, ranging from traditional procedures such as the Wechsler Adult Intelligence Scale to special techniques such as Perception of Line Difference Test (developed by Birren and Botwinick in 1955)(3). Hotelling's Principal Component method was employed in an attempt to determine the minimum number of factors necessary to account for the common variance in a wide range of psychological measurements in older men, and for purposes of interdisciplinary correlation. (Rorschach, TAT and other projective tests were administered, but the results will not be discussed here.)

Three psychiatric interviews (2 to 3 hours in length) were conducted under standard conditions; these were observed through a one-way vision mirror by an observer-psychiatrist, and were recorded and audited in an adjoining room. Systematic rotation of the roles of interviewer and observer was introduced to minimize systematic bias. In addition to traditional psychiatric evaluation, exploration of topics believed to be of particular significance to the aged was undertaken (*e.g.*, experience of changes, attitudes toward the future and toward death). Attempts were made to objectify and quantify observations and interview material, through the use of rating scales, content analyses and independent judges.

Detailed interview guides were used in the social psychological studies which involved a significant family member as well as the volunteer; the resulting data were coded independently by two of the investigators. Eighty percent was set arbitrarily as the necessary level of coder agreement. Like other social psychological studies of the aged, the primary data source was the self-reports of the aged, but unlike them, the accounts of intimate informants and observations of the volunteers during their residence were additional sources of data, providing a check on validity.

FINDINGS⁸

This sample of aged volunteers was quite

⁸ Since more than 600 variables were measured or observed, the results of this project cannot be reported in full. To Drs. Samuel W. Greenhouse and Donald Morrison, we are indebted for contributions to design and for statistical analysis.

⁷ The study period began Dec. 1955 and ended June 1957.

different from and superior to other samples of aged persons that have been previously described. This might have been expected from the selection for medical health and social competence. Broadly speaking, our men were vigorous, candid, interesting and deeply involved in everyday living. In marked contradiction to the usual stereotype of "rigidity" of the aged, these individuals generally demonstrated mental flexibility and alertness. They continued to be constructive in their living; they were resourceful and optimistic.

Medicine(1). The internists were also very impressed by the over-all excellence of health and physical vigor of the sample. Comparatively few differences were demonstrated in the many functions tested in the medical survey between the aged and the young. Hematological, blood, chemical and urinary studies as well as more specialized studies revealed no statistically significant differences with a few important exceptions. These studies were conducted in the same laboratories and facilities, and the normal mean values of the Clinical Center were utilized in the comparisons. Moreover, few correlations were found to age within the limited age range of our sample.

Serum albumin, as measured by both electrophoresis and the chemical method, was significantly lower in the aged. This difference is believed to be an important lead for further study of the fundamental processes of aging since, *e.g.*, nutrition, *etc.*, do not explain the decreased albumin.

Although directly measured mean arterial blood pressure correlated positively with age, clinically obtained systolic and diastolic blood pressures did not. The optimally-healthy Group 1 had mean blood pressure values similar to Master's 20-40-year-old group: Group 2 resembled Master's old age group(4, 5). It is suggested that the capacity to raise blood pressure in the presence of arteriosclerosis has a protective function, *i.e.*, maintenance of blood supply.

Results of pulmonary function studies (including maximal breathing capacity, M.B.C., times and untimed vital capacity, *etc.*) generally revealed excellent functioning without evidence of clinical pathology. Arterial oxygen saturation was, however, decreased in both subgroups of the aged,

for unknown reasons. From some of the results of this study, the designation "senile emphysema" appears questionable. Chronic, heavy cigarette smokers (over a pack per day for 35-60 years) had reduced M.B.C., but surprisingly few other physiological changes.

Retinal arteriosclerosis, which was minimal, appeared to be insignificant in the total evaluation of physical and mental health, was not related to cerebral blood flow, oxygen consumption or vascular resistance, and was not associated with roentgenographic evidence of cerebrovascular calcification.

Cerebral Physiology(6). In contrast to the previous literature and expectations, the studies of cerebral circulation and metabolism revealed no significant difference in cerebral blood flow and oxygen consumption between a group of normal young subjects (mean age 21 years) and the elderly men (mean age 71 years), selected as described. Where reductions in cerebral blood flow did occur it was found to be a function of those subjects with evidence of arteriosclerosis (Group 2). It is suggested, therefore, that decreases in cerebral blood flow and oxygen consumption found in older people are not the consequence of chronological aging, *per se*, but rather of arteriosclerosis, which causes first a relative cerebral circulatory insufficiency and hypoxia and ultimately a secondary reduction in cerebral metabolic rate(6).

Electroencephalography(7). The incidence of clinically normal EEGs within this population was 81% which compares favorably to the findings on young people. In contrast to previous aging studies only 9% of the cases had temporal lobe foci. Groups 1 and 2 did not differ with respect to incidence or type of abnormality. However, frequency analysis did give a mean spectrum with a peak frequency of 9 cps., a full cycle slower than reported for young adults. The entire spectrum, especially the major frequencies, appear to have shifted to the slow side. As in the case of the cerebral physiological findings, there appeared to be effects on the EEG associated with those subjects who were diagnosed arteriosclerosis; there were slower individual peak frequencies in Group 2.

Cognitive Processes(8). Intellectual performance in this sample was superior to the young normal controls who were also tested and with the previously studied aged samples; however the psychologists did find evidence of some slowing in speed which they attributed to aging.

Group 1 (optimally healthy subjects) scored better than Group 2 when the 23 psychological tests were taken as a whole (less than .01), suggesting the sensitivity of cognition to health. Five principal components were derived from analysis undertaken, the first and fourth of which were interpreted as a general intellectual factor and a speed factor, respectively.

Psychiatry(9). Functional psychiatric disorders occur in the medically healthy, community-resident elderly which are not a function of either cerebrovascular disease, so far as present methods can detect it, nor of chronological age itself. The healthy aged are subject to disorders which appear similar to those affecting the young and these disorders, including depression, do not correlate with cerebral physiological variables.

The prevalence of functional psychopathology in our elderly sample was similar to that which has been reported in various studies of younger volunteer populations (10, 11). Mild reactive depression constituted the most common single diagnostic class (19% of the entire sample).

Searching for early prodromal signs of senility, it was found that among the individuals who were evaluated as exhibiting "senile qualities," common characteristics were observed involving intellectual functions and feelings; namely, decreased comprehension, memory, attention, and set, as well as reduced emotional responsiveness. It should be emphasized that "senile quality," perhaps in retrospect a poor term, means mild, early mental decline. Chronological age did not differ between the senile and the normal aging or senescent individuals, suggesting that senility is not an inevitable consequence of aging itself. Indeed, the importance of chronological age as an over-riding factor in the psychiatric disorders of the aging appears questionable as a result of this study; the significance of other factors including personality, psycho-

social disruptions and losses, diseases and the like was recognized.

Efforts were directed toward further defining the aging experience of an individual in terms of intrinsic and environmental changes and reactions to them(12). All volunteers described changes, the mean number of which was 15. The greatest number of changes reported were physical, followed by personality-affective, socio-psychological and cognitive changes. However, changes were not uniformly viewed as deficit in character by the aged subject as they are so frequently described in the literature pertaining to old age. Changes were often reported as positive and constructive. Nor were changes uniformly viewed as unalterable. Although acceptance was the most frequently reported reaction to physical decreases, compensations were reported to social psychological decreases.

Importance of personality in response to losses and disruptions (we have grouped such events under the term crises) was apparent. The effective use of insight involving accurate perception of the changed circumstances of old age and appropriate behavioral modifications was a common occurrence. Other adaptive patterns included the use of activity to extreme counter-phobic maneuvers, in which the aged person undertakes excessive, at times personally dangerous, activities to demonstrate his youth, his prowess and his fearlessness before aging and death. Denial of aging changes was found to be a useful reparative measure against depression(13). The adaptive use of life long psychopathology (e.g., schizoid and obsessive mechanisms), maladaptive prior to the aging period, was observed. Maintenance of a functional sense of identity seemed to be crucial to successful adaptation. An apparent alternative to the shattering of functional identity was the acceptance of a stereotype identity of an aging person. In addition to age crises in identity, severe psychological isolation and depression were especially frequent maladaptive clinical patterns.

In contrast to other age groups where diagnosis is reasonably predictive of adaptation, in the aged the discrepancy between diagnosis and adaptation seemed to be

much greater, suggesting a need for revision of diagnostic assessment in the aged. There was evidence of the importance of evaluating the relationship of morale to the nature and effectiveness of adaptive techniques in the contemporary aging experience.

Social Psychology (14). Previous notions to the effect that arbitrary retirement per se results in unfortunate consequences require qualification, according to this study. It was found here that it was the man who arrived at retirement through conflicting internal and external pressures who seemed to suffer the most ill effects.

The familiar sociological groupings of educational and occupational levels and ethnic classifications were not found to be related to highly differentiated patterns of function. In short, there appeared to be a "leveling" which may have resulted partly from the tendency for these men to drop their specializations, to find similar hobbies, to use common recreations afforded by the culture and to engage in many "maintenance" activities of the household. Inner resourcefulness in finding sustaining involvements was by no means the sole property of the more educated among these men.

Factors of the immediate environment were found to be very closely related to the aged person's behavior and attitudes. As the environment shows qualities of deprivation or displacement of the person (in loss of intimate persons, loss of income, in cultural displacement), the attitudes and behaviors of the aged show more deteriorative qualities and/or depressive manifestations. Losses of significant persons are especially associated with deteriorative functioning. In light of the findings on the effects of the immediate environment, the question of life setting influences might be refined. It seems probable that different life settings (group or family culture, education, etc.) build up, selectively and specifically, different strengths and vulnerabilities in the individual; also that different settings of earlier adult years make the occurrence of certain environmental circumstances in old age more or less likely.

Intercorrelations. Here we can only detail a few of the more provocative and significant findings, or lack of findings, of inter-

relationships between the various disciplines. There was evidence suggesting that in the presence of cardiovascular disease increased blood pressure tends to protect against the slowing of the EEG (*cf.*, *Medicine* section).

There was a lack of correlations between cerebral circulatory and metabolic variables on the one hand and EEG measurements on the other hand which was probably the consequence of the absence of notable pathological changes in this select group of healthy old volunteers. It is considered likely that the EEG is influenced by circulatory and metabolic factors but probably only when pathological processes intervene to produce cerebral vascular insufficiency and hypoxia. Although there was evidence of such processes in the arteriosclerotic subjects in Group 2, the decrease in blood flow was nevertheless still of insufficient magnitude to limit the cerebral oxygen consumption or influence the EEG.

There was also a general absence of correlations between physiological variables (*e.g.*, EEG measurements) and the general intellectual factor. Again it was felt that such correlations which were expected would be more likely to appear in a population with greater pathology. There was, however, a correlation of .55 between the cerebral metabolic rate and the general intellectual factor but this occurred only in Group 2. The interdisciplinary investigation failed to provide a neurophysiological basis for the apparent decline in speed of response in the healthy aged.

It was of considerable interest that psychiatrically evaluated depression was significantly associated with mean reaction time at the .05 level. This finding is consonant with most writings reporting relationships between depression and psychomotor and physiological retardation. There was not, however, any relationship between depression and cerebral circulatory, metabolic or electrical measurements.

Coupled with the findings that health status and increased arterial blood pressure also significantly correlated (and decreased audition interacted) with mean reaction time, the question arose as to whether the hypothesized slowing of speed as a CNS process characteristic of aging required

qualification. In any event, it is most important to consider this question since it is reasonable to suppose that effects intrinsic to aging are less likely to be subject to modification than are the causes and effects of morbid states.

Individuals evaluated as showing senile qualities were found to show statistically significant reductions in cognitive test scores compared to their non-senile peers but senile quality did not affect speed of response. There was some evidence to support the belief that cerebral arteriosclerosis with consequent reduction in cerebral blood flow and oxygen consumption was one pathway in production of manifestations of senility, perhaps prodromal to the development of an organic brain disorder. However, senile manifestations could not be totally explained in this way. There were individuals with early senile manifestations who did not have diagnosed arteriosclerosis or evidence of cerebral circulatory or metabolic changes. We are left with the realization that both senility and arteriosclerosis are fairly common occurrences in old age and that they may not, in fact, bear any essential pathogenic relationship to each other. It would seem reasonable to conclude, however, that when arteriosclerosis does occur with sufficient intensity cerebral circulation and metabolism are affected and senile manifestations may be produced (15). Other pathways to senility are possible. Either a non-vascular, neuronal degeneration, or a functional basis may be hypothesized.

Significant relationships which were found between measures of cerebral physiology and measures of social functioning were unexpected. Specific dimensions of organization of daily activity, maintenance of goals in living and maintenance of social contacts, as well as a summary score of social responsiveness, each significantly was associated with one or more of the physiological measures of cerebral blood flow, cerebral oxygen consumption and cerebral glucose consumption.

A significant association was found between contemporaneous environmental deficits as measured by the social psychologist and depressive trends as evaluated by the psychiatrist. A significant correlation was found between mean reaction time and

severity of environmental deficits ($r=.35$). There was also a significant association between principal component IV ("mental speed time") and environmental deficit ($r=.31$). It is suggested that the effects of losses may be mediated through the depressive state of the individual which in turn may be responsible for the slower reaction time.

SUMMARY

Old age is a period of rapid, profound and multiple changes of varying intensities, physiological and social, which influence subjective experience, behavior and adaptation. Characteristics possessed prior to old age modify the extent and the nature of these influences but do not fully account for the changes themselves. Clarification of the nature of these changes and their age-specificity is exceedingly difficult since chronological aging is imbedded in a matrix of many other factors ranging from social to physiological.

In general this sample, as might have been expected from its selection for medical health and social competence, was quite different from other samples of aged reported previously. The belief, for example, that cerebral blood flow and oxygen consumption necessarily decrease as the consequence of chronological aging per se was not confirmed: rather it was found that when such changes did occur they were the probable result of arteriosclerosis. Although some EEG changes occurred, particularly a showing in peak frequency, they were minimal and again became marked largely in the presence of arteriosclerotic disease. Cognitive performance in this sample compared favorably with the young but the psychologists found evidence of some slowing in speed processes as a consequence of aging. Moreover, psychometric tests appeared unusually sensitive to the presence of minimal disease states including arteriosclerosis. Whether alteration in speed is an intrinsic process associated with aging and whether it is a centrally-occurring process may require further clarification. Environmental deficits, health status, arterial blood pressure, depression (and indirectly audition) were major factors that did influence both mean reaction time and a general speed

factor which was extracted by means of a principal component analysis from the psychometric data.

Social, personality, and health variables would therefore appear to be of considerable importance towards explaining the manifestations of aging. Indeed, it was very striking to us that in a population purposively biased in its selection for medical health and community-residence the powerful influences of these factors would still be revealed.

It is a fundamental problem in geriatric medicine, including psychiatry, to determine how to extract aging from other factors producing overt manifestations of disturbance. It is of particular interest to the psychiatrist that disease, particularly arteriosclerosis, sensory deficits and social deprivation, has far-reaching effects; these findings are important both to evaluation and to the conduct of any treatment and care program (16). If arteriosclerosis should become preventable or reversible, for example, the entire façade of aging may change surprisingly.

Our broad conclusion may be stated as follows: As a consequence of a careful multidisciplinary pilot study, we have found evidence to suggest that many manifestations heretofore associated with aging per se reflect instead medical illness, personality variables, and social-cultural effects. It is hoped that future research may further disentangle the contributions of disease, social losses, pre-existent personality, so that we may know more clearly what changes should be regarded as age-specific. Indeed, various types of investigations, complementing one another, would be useful. Intensive studies, involving frequent contact over considerable periods of time, based upon the growing personal relationship between the investigator and the older person, would contribute to our understanding of the subjective experience of aging and approaching death (16, 17). Longitudinal studies, of course, would enhance our opportunities of classifying changes as to whether they are age-specific, disease-linked, etc. Our own follow-up, after 5 years, is nearly complete and added new dimensions, notably data pertinent to mortality and survival (2). If we can get behind

the façade of chronological aging we open up the possibility of modification through both prevention and treatment. In our lifetime (if at all) it is not likely that the inexorable processes of aging will be amenable to human intervention but it cannot be too greatly emphasized that it is necessary to be able to recognize those factors which are open to change.

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A COMMUNITY PROJECT FOR THE COOPERATIVE CARE OF MENTAL HOSPITAL PATIENTS: THE COOPERATIVE CARE PROJECT¹

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A group of five agencies, including the Connecticut Valley Hospital of the Connecticut State Dept. of Mental Health, the psychiatric clinic of the Grace-New Haven Community Hospital, Family Service of New Haven, the Visiting Nurse Association of New Haven, and the Bureau of Vocational Rehabilitation of the Connecticut State Dept. of Education, have established a community project for the cooperative care of New Haven residents admitted to the State mental hospital. Under the sponsorship of the New Haven Community Council, the main purpose of the project is to assure a high level of continuous service for patients and their families from the time the patient enters the hospital until, after return home, treatment or service is no longer needed. It is assumed that it might be possible to prevent chronic psychiatric disability by the services the project provides.

Project funds have been used to add an extra worker to each of the five "project" agencies, so that time is available for coordinated activity and for additional service. When a resident of New Haven is admitted to the hospital, he is seen by one of the project workers to learn about the circumstances leading to admission, and to obtain information about the patient's family. A home visit is soon made to the patient's family, either by a social worker or a nurse one of the project agencies to ascertain the family's need for service and to make appropriate disposition, either for continued

service by the visiting worker, or by referral to another community agency. On leaving the hospital, the patient is usually referred to the psychiatric clinic of the Grace-New Haven Community Hospital for aftercare treatment. Family Service and Visiting Nurse Association also deal with aftercare problems of patients and families, cooperatively with the clinic, or at times on their own, with the clinic carrying medical responsibility if consultation is needed.

Agency workers visit the hospital regularly to establish close working relations with the hospital staff, to discuss problems of patients and their families, and to get to know the patients themselves. Cases referred to Family Service, Visiting Nurse Association and psychiatric clinic are accepted on an integrated basis, *i.e.*, they are assigned to members of the entire staff in the same way as other cases. Psychiatrists on the staff of psychiatric clinic, as well as psychiatric consultants of the agencies themselves, are available for consultation on all cases assigned to project agencies, or any other agencies which are dealing with the problems of a project patient or his family. Homemaker service is provided by Family Service to assist a female patient in again picking up her responsibilities as a mother. The rehabilitation counselor does vocational testing, guidance, and job evaluation and placement. She keeps in touch with other agencies and employers to learn of job openings, company and union policies, job training opportunities, attitudes about hiring ex-mental patients, *etc.*

The patients come mostly from lower and working class families. From the point of view of their problems, they fall into three large groups: 1) those with a primary diagnosis of alcoholism, about 35% of admissions; 2) those with a broad range of "functional" psychiatric conditions, including the schizophrenias, depressions, personality disorders, and acute transient, situational reactions, representing about half

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the admissions; and 3) patients with disorders associated with the aging process, about 15% of the admissions, and with a high mortality rate. The hospital seemed to be an appropriate resource only for the "functional" disorders, and it was felt that the other two groups would be better served in other, local community facilities.

At this point, I shall discuss the assumptions and hypotheses which form the basis of the project, in the light of almost 1½ years' experience. We have not established a new service but a new pattern of community cooperation and endeavor. The project represents a community commitment to become professionally involved in the problems of the mentally ill and their families. Community agencies had been active in extending care to many of the families of the mentally ill, and often to patients, too, but never in a systematic, inclusive fashion. The decision to offer routine service to families was founded on the assumption that psychiatric illness, particularly in the form of the acute episode, depends on a disturbance in the interaction of the patient with other members of his family, or with other significant persons. It was thought that such disturbance led to a series of aggravation of the problems of all members of the family to the point where it seemed necessary for the patient to be hospitalized.

We are accustomed to look at the patient as the primary if not the exclusive focus of interest. In the project, however, we assume that the patient reacts in a situation over an extended period of time, and that all significant elements in the situation are of equal interest in understanding and treating the mental illness. The "elements in the situation" will generally be the members of the patient's family with whom he shares important relationships. We also assume that the moment of hospitalization represents a climax of aggravated tensions, and that participant study of the situation at this point is necessary both for diagnostic and therapeutic reasons (to understand what has happened, how it has happened, and how it might be put right). In other words, we assume that the acute symptomatology of the illness (as differentiated from the ingrained, characterological reaction modes) is the end-result of a process of

struggle within a family group for assertion and validation of competing needs, and that the outbreak of fresh symptoms represents partly a cry for help (by more than one member of the family, or perhaps just by the patient himself), and partly a reaching out for new and better adaptive measures.

Hospitalization would seem to be more often prompted by a convergence of circumstance than by medical indication, if such exists at all in this field. The major use of the mental hospital is as refuge or asylum in the face of an unbearable situation; and the most sensitive and reliable indication is the patient's own need to be away, a need which to be sure is not always easily expressed. Persons with vulnerable personality organization are most likely to develop acute psychotic or other deeply disturbed reactions, which usually resolve spontaneously as anxiety is allayed, in hospital or out. These are occasions when the social buttressing ordinarily available begins to fail the patient, and he reaches out for any other means of support, protection, refuge, or escape he finds at hand.

There is no suggestion here that patients will not continue to need hospital care, or that hospitalization as such is in any way undesirable. What we are interested in is a re-evaluation of the relationship between the hospital and the communities which send them patients, as well as of the functions of the hospital and community agencies in the coordinated care of mental illness. It is of interest, in this connection, that once hospitalized the patient generally ceases to be of concern to the community. It might be said that throughout the history of the State mental hospital program in this country, the patient has had relatively few and relatively inadequate services to help him maintain his ties to family and community; and that there has been a conspicuous lack of established procedures for re-integrating him into life in the community, of helping him to regain his place in his family or on his job. These services have been present in New Haven but not as an organized effort toward helping the mentally ill patient and his family, so that one might say that the psychiatric patient has been more or less neglected by the service agencies of the community. Basic to this

neglect is the assumption that the psychiatric patient is the responsibility of the hospital and not of the community.

In the project, we say that the community joins the hospital in sharing responsibility for the care of the patient, and one may ask, what does this mean, how is one to think about it? It is useful to keep in mind that the hospital is a closed institutional system, with norms and standards for the patient's adaptation and improvement which are based upon staff's knowledge of his response to the experience of hospitalization. The hospital's compact with the patient is that he achieve an expected level of adaptation to hospital living, whereupon he will be permitted to leave, conditionally, *i.e.*, remaining under continued medical supervision, or unconditionally. The hospital has no way of interesting itself meaningfully in the patient's family, or in the patient's life at home and in the community, since it cannot in its practice simultaneously encompass two different cultures, that of the hospital and that of family and community. Where hospital staff maintain contact with patients after they leave, they readily find themselves attempting to continue institutional controls, *e.g.*, by mandating on frequency of visits, or by continuing medication for indefinite periods. There is no doubt that these are useful procedures for many patients whose dependency needs or whose fear of their own impulses lead them to welcome such controls, but they are also both undesirable and

ineffective for a great many others.

Community services, on the other hand, are characterized by a recognition and acceptance of individual autonomy as the distinctive value of life in an open community, and as the desired goal of treatment. It is assumed that regardless of his diagnosis, the patient will strive spontaneously toward the recovery of his sense of autonomy, and treatment procedures are oriented toward facilitating such tendencies. These two differing points of view, each having validity in its own time and place, are brought into coordinated relation with each other through the administrative devices of the project.

CONCLUSION

This has been a pioneering venture, in which a community undertakes to share responsibility for the mentally ill with its State mental hospital. In the project, we have developed routines and methods which take advantage of existing community resources to bring about greater coordination of effort in understanding and meeting the problems of patients and their families. Inevitably, a great deal of contact and exchange of views and information between hospital staff and staff members of the participating community agencies have taken place, leading to increased mutual understanding and acceptance. A new kind of team relationship of social agencies and medical facilities has been set up as an integral part of the project, for the benefit of the mentally ill patient and his family.

INTRAFAMILIAL DETERMINANTS OF DIVERGENT SEXUAL BEHAVIOR IN TWINS¹

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Studies of the influences determining heterosexual and homosexual behavior have focused on various aspects of the continuum of genetic, physiological, intrafamilial, and cultural factors (1-5). The broad assumption contained in these investigative efforts is that behavior derives from the organism's inherited biological makeup interacting with the physical, social, and familial environment. A goal of such studies is to isolate a particular pattern of behavior and then search for genetic predispositional configurations and the particular familial and social transactions leading to the overt behavior under scrutiny.

The study of twins is an admirable approach to this goal (6). Genetic studies have been concerned largely with the demonstration of the frequency of particular types of personality disorganization in one-egg co-twins of affected individuals as compared with the frequency of such disorder in two-egg co-twins and siblings, thus providing a measure of the genetic influence. Large scale investigations of consecutive series of monozygotic and dizygotic twins can indicate the degree of significance to be accorded to genetic transmission of a particular condition or trait. Thus, in schizophrenia, concordance in one-egg twins has been of the order of 86%, with two-egg twins in such series similar to siblings of different ages (7). In male homosexuality, one study (2) revealed over 95% concordance in 40 monozygotic twin pairs with only 11.5% in a comparable series of dizygotic pairs. Such findings emphasize the similarity of behavior in one-egg twins while providing the unusual opportunity for elucidation of those influences leading to apparently rare divergent sexual orientation in one-egg twins.

The present report is the second devoted to the examination of factors responsible for divergent development of behavioral traits in monozygotic twins. In our first report, two pairs of twins were studied (8).

The design of the study involves the examination of such twins using currently available physical, biochemical, and cellular techniques, psychological and psychoanalytic methods, including studies of the parents. These data are evaluated to determine possible correlations with the divergent behavioral trait. The material presented here is focused on factors possibly responsible for divergent sexual behavior. Clearly, such studies provide the unique opportunity for more precise isolation of significant intrafamilial determinants of psychosexual role in a group of individuals who are genotypically the same. The comparison of the developmental process of one twin with his co-twin and with other twin pairs presenting similar differences in behavior offers the additional possibility of determining whether some weighting, which may be designated emotional valence, might be given to postnatal transactions that influence the evolution of a particular sexual role. Similar valence may also be applied to experiences effecting the development of character traits, ego structure and defense mechanisms. Such studies require investigation of one-egg twins concordant and discordant for the trait, as well as of two-egg twins and siblings.

The potential value of this approach is evident, but its complexity must not be overlooked. Modification of gene action in one-egg twins may occur as a result of minor shifts in the balance of forces in the total chromosomal or nuclear structure which then perpetuate themselves by different biochemical pathways in the separated individuals. Intrauterine forces may affect one or the other of the two growing organisms before the postnatal influences of the family operate. Actually, such differential effect

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in utero is more likely in monozygotic twins than in dizygotic twins because of frequent competition for the available maternal placental circulation(9). Interactional patterns during embryonic life may lead to gross phenotypic differences, broadly subsumed under the heading of expressivity. In an analogous manner, important intrafamilial influences affecting psychosexual development may be enhanced or diminished by subsequent life experiences. Thus, the pathway from a given genetic structure to the appearance of a behavioral trait in later life is indeed tortuous.

As Burlingham(10) points out, in their development twins are subjected to pressures which emphasize their similarities, closeness, mutual love, superior friendship, and uniqueness. Rivalry problems may be denied and minimized by the twins adopting the same desires and sacrificing individual drives. Jealousy generated between the twins exaggerates hostile death wishes, which in turn demand compensatory efforts at repression, resulting in the twins maintaining their close relationship. Such forces make it difficult for the twins to establish a clear self image as they usually tend to identify with each other. The ego development resulting from these forces has been designated by Kolb as "inverted identification"(11). Judging from Kallmann's studies of homosexuality in twins and psychoanalytic reports of ego development, the inverted type of identification is most frequently encountered as far as determination of psychosexual identity is concerned. The pressures toward sameness are great, but there are simultaneous pressures promoting differences in the twins. In noting differences, emphasis is placed on appearance, *e.g.*, one looking like the mother and one like the father; behavior, such as crying and greediness; intelligence; and character. Distinguishing features are important to the mother as she has a feeling of failure if she cannot tell the twins apart and adjust her interactions with the appropriate twin. This inability to distinguish the twins may be equated by her with lack of love. It would appear that these efforts to differentiate the twins are less potent than the influences toward sameness. Identification patterns affected by such influences may be called

"everted identification." In our study, it has been found that certain experiential factors have made more significant the twin differences, thus making possible divergent sexual development.

OBSERVATIONS

The data reveal certain intrafamilial determinants of divergent sexual behavior in four sets of monozygotic twins and one dizygotic male pair. Diagnostically, three identical male pairs were classified as psychoneurotic while the female one-egg pair and the two-egg male pair were schizophrenic. The same factors were studied in the two-egg as in the one-egg pairs to assay the influence of the intrafamilial experiences on divergent development. One homosexual and one heterosexual twin, not of the same pair, were in psychoanalysis. The female pair and the two-egg male twins were in psychotherapy. Except for one twin who was not available at this time, information from the other twins was derived from interviews. In three cases, data were obtained from the parents.

The genetic studies of zygosity were carried out by the similarity method of Smith and Penrose(12). In three male twin pairs the chromosomal sex was determined using specimens of the buccal mucosa(13). All agreed with the male phenotype. In one pair, steroid analyses with identification of 11 different substances was prepared on 24-hour urine specimens. These studies did not reveal any significant biological differences in the one-egg twins.

The intrafamilial forces which were examined were found variously, alone and in combination, to represent condensations and foci of parental attitudes, which later unfolded in interpersonal transactions influencing psychosexual role definition. It was not expected to find that in every family the focal points would either be the same or have equal weight since these points are reflections of the individual personalities of the parents and the structure of the family.

The data derived from the psychological and familial forces studied are presented in summary.

1. Prenatal fantasies and wishes of each parent as to the sex of the expected child.

In one male pair, the mother's prenatal wishes were strong and clearly expressed. She hoped for girls, influenced by the presence of two sets of female twins in the extended family group. After allocating the second born male, later homosexual, to be her "girl," she subsequently exclaimed, "That's why he is like a girl." In the female pair after initial rejection with an attempt at abortion, the parents resigned themselves to the pregnancy. When learning of twins, they wished for a boy and girl. On the birth of the twin girls, one was given a name similar to a boy. The fantasies of the parents in the other twins included either wishes for a boy where a girl was born the preceding year, or denial of any particular fantasy. Thus, in two of the monozygotic twin pairs the prenatal fantasies of the parents clearly failed to match the actual sex of the children.

2. Prenatal attitudes to twins' birth.

In one pair an attitude of rejection of the second born, later heterosexual, male was established at birth. The mother attributed to him the difficulties in parturition and difficult labor, blaming him for her subsequent invalidism. She bestowed preferential treatment on the first born, whom she felt was the weaker twin. In the other twins, the attitudes were those more usually found. They were a mixture of rejection of the twins as burdensome, with pride in them as evidence of sexual capacity.

3. The family significance of the naming.

In all four male pairs, the child whose name is most closely associated with the father evolved the masculine role. Naming, perhaps, is the clearest indicator of later identification patterns and eventual sexual role. In these families naming appeared to be a concrete manifestation of the allocation of the twin to either the mother or father. In one case where the homosexual twin was given one name after his father, it was later learned upon interviewing the parents that the heterosexual twin had initially received his first and middle name after the father. Later, feeling guilty about this obviously preferential distribution, the parents divided the father's name between the two. This change in names occurred after a physical distinguishing feature, a slight protuberance on one ear, already had clearly identified the second born twin that the mother had allocated to be her "girl." In the female pair, the first born and later heterosexually oriented twin was given the preferred name for the paternal grandmother, whereas, the second born was given a less valued name after a maternal

aunt. The latter name was then given masculine significance by being made similar to a boy's name, Roberta. This name subsequently became involved in the girl's delusional idea about being a boy.

4. Parental efforts at differentiating the twins.

The findings of parental anxiety leading to efforts to differentiate the twins were similar to those reported by Burlingham. With the differentiating features of prenatal fantasies, attitude toward the twin's birth, and naming, already noted, the search for distinguishing marks is especially significant as a means of concretely separating the twins. By this means, e.g., the mother could identify the twin who she felt had caused her difficult parturition, or the male twin whom she wanted to be her "girl," as well as to support the allocation of the twins noted in the names. Therefore, slight anatomical differences take on added significance.

5. The occurrence of physical distinguishing features in the twins.

In one male pair, a defective closure in the median labial fissure was slightly more pronounced in the maternally preferred and later homosexual twin. In another male pair, a protuberance on the right upper ear was used by the mother as a distinguishing feature and made it possible for her to identify easily the second born child whom she had wanted to be the female of the pair. In the third one-egg male pair, a birthmark on the lower back was noted in one twin, who also was found to have congenital heart disease. In this pair, the birthmark was used to identify the twin named for the father, whereas the mother's preference was for the physically healthy twin who helped her care for the sickly brother. In the single female pair, birthmarks on the upper lip and upper left forearm were sought out to differentiate the twins.

6. Emotional significance of such features to the parents and the extended family.

In the cases noted above, the twin with the distinguishing physical characteristics received greater handling from family members and others as these features were sought out in order to differentiate them.

It appears that the twin who received greater maternal care and handling, regardless of whether the twin was later to become homosexual or heterosexual, had greater ego security and more effective psychological defenses.

7. The differing object relations of the twins from birth.

In our series, the parental emphasis on differentiation influenced the subsequent object relations. Thus, in one male pair, the mother encouraged one twin to play with dolls, to learn dancing, and taught him to play the piano as she did. She discouraged him from activities that his brother, named for the father, engaged in, such as rough sports and play with boys. By the age of 6, the father stated it was clear that one was like a boy while the other was like a girl and he subsequently treated them accordingly.

A similar situation occurred in the female pair, where the twin with the boy's name attempted to find companionship with the neighborhood boys. She joined with them in games, was considered a valuable baseball player, and competed effectively with them. She rejected the role her sister had pre-empted, *i.e.*, assisting the mother, dressing like a girl, and having feminine interests, and attempted to find her place outside the home and as a boy. Later, with the onset of menstruation, she attempted to deny her sex and developed delusional ideas about being a male.

One heterosexual twin, rejected by the mother, found a sympathetic and non-threatening relationship with his nurse. In his psychoanalysis, this relationship was found to be significant in facilitating selection of females as genital object choices.

In one pair, the heterosexual twin had congenital heart disease and, at age 10, contracted poliomyelitis and rheumatic fever. Here, the physically healthy twin was severely inhibited in the expression of rage toward his sickly brother and shared with the mother in his care. Later homosexual, the healthy twin never enjoyed competitive sports, followed in the shadow of his ill brother, and had severe inhibition in assertion and in claiming credit for his work.

8. Attitude of twin to his body, to his self as perceived and as seen ideally.

In the three one-egg male pairs, both twins maintained a critical attitude toward the body. The heterosexual and homosexual twin who were in psychoanalysis revealed greater dissatisfaction than their co-twins. The two homosexual twins who were not interested in therapy and who apparently accepted their sexual roles found less dissatisfaction with their bodies, expressed a narcissistic satisfaction with the male physique and critically commented on the "unattractive" female body.

In the female pair, the homosexual twin, unlike her sister, was confused about her genitalia, denied the female body structure, and in her delusion, sought to repair the imagined castration by having a substitute penis displaced to her forearm, where she felt she had a vein like a boy.

9. Fantasy life of the twins, particularly in the sexual area.

In two male cases, the fantasy life of the homosexual twin was exclusively homosexual and the sexual relationships were consistently so. In these cases, the initial factors in the selection of the twin for his sexual role occurred in the prenatal and immediate post-natal period. Their acceptance of homosexuality and the unwillingness and lack of motivation to change was profound.

In the third psychoneurotic pair, where the homosexual twin was less closely tied to the mother whose interest and concern also rested on his brother with heart disease, his later behavior involved the aggressive role with rectal intercourse, emphasizing the power aspects of the relationship. The diminished intensity of his feminine identification reflected the influence of the father, which attenuated the effect of the maternal relationship.

In the female pair, the homosexual twin fantasied herself as a boy in relationship to the female.

10. Super-ego growth of the twins, especially in relation to allowed and prohibited forms of sexual activity.

In two cases, prohibitions against homosexual activity (provided by the father, the major object choice) were internalized, while the twin selected by the mother and identifying with her accepted her permissive attitude toward homosexual interests and her prohibitions against heterosexual objects. In one case, when the homosexual twin began a career in ballet, he was warned by the mother not to marry as it would interfere with and ruin his career. Similarly, the mother of another homosexual twin warned him of betrayal by girls he would meet.

The differing super-ego attitudes were also reflected in the twins' relationship to each other. In three cases, the homosexual twin struggling with his libidinal ties to his twin, attempted to influence him toward homosexual activity. One twin commented, "Twins are the same," as he tried to seduce his brother into homosexuality with the expectation that his brother would be similarly interested. The

In one male pair, the mother's prenatal wishes were strong and clearly expressed. She hoped for girls, influenced by the presence of two sets of female twins in the extended family group. After allocating the second born male, later homosexual, to be her "girl," she subsequently exclaimed, "That's why he is like a girl." In the female pair after initial rejection with an attempt at abortion, the parents resigned themselves to the pregnancy. When learning of twins, they wished for a boy and girl. On the birth of the twin girls, one was given a name similar to a boy. The fantasies of the parents in the other twins included either wishes for a boy where a girl was born the preceding year, or denial of any particular fantasy. Thus, in two of the monozygotic twin pairs the prenatal fantasies of the parents clearly failed to match the actual sex of the children.

2. Prenatal attitudes to twins' birth.

In one pair an attitude of rejection of the second born, later heterosexual, male was established at birth. The mother attributed to him the difficulties in parturition and difficult labor, blaming him for her subsequent invalidism. She bestowed preferential treatment on the first born, whom she felt was the weaker twin. In the other twins, the attitudes were those more usually found. They were a mixture of rejection of the twins as burdensome, with pride in them as evidence of sexual capacity.

3. The family significance of the naming.

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rejection of this entreaty proved to be significant in establishing a heterosexual orientation and was a source of self-esteem to the heterosexual twin in the struggle for identity and separation. These twins lived together and the open flaunting of his sexual activities by the homosexual was significant in establishing for the heterosexual twin his sense of being different, thus reinforcing his identification with the father.

In each of the male cases, the mother was the dominant parent. The father was openly and actively derogated in three cases and in the fourth assumed a passive role in the family. In these instances, the child associated with the father was identified with a dependent and unaggressive male figure. This identification, begun early in life and supported by subsequent events, was influential in permitting separation of the twins with regard to sexual role.

In the three psychoneurotic male pairs, ego security was greater in the twin receiving greater maternal care. In two cases, the twin was homosexual, whereas in the third, the sick twin with congenital heart disease became heterosexual. In the latter case, although the sick twin received greater maternal care, he was able to carry to fruition his identification with the father. In the two-egg male pair, who were schizophrenic, the maternally preferred homosexual twin was also the more secure and assertive. The separation of these twins led to the first psychotic decompensation of the heterosexual twin. Later, the homosexual brother became psychotic (14). In the female pair, the girl closest to the mother was more successful in maintaining her integration, although both were periodically psychotic.

In the two cases in psychoanalysis, one homosexual and the other heterosexual, not of the same pair, dynamic factors were ascertained which influenced the outcome of the oedipal conflict. In the case of the homosexual twin, his repressed rage at his sick brother who got extra attention was joined with guilt over his sexual attraction to his openly seductive mother, to which he responded by withdrawal. At the onset of adolescence, he felt betrayed by his mother who engaged in a much publicized affair. Disappointed and shamed by his mother, burdened by repressed rage at his brother, and inhibited in realistic assertion, he adopted an aggressive position in homosexual activities by engaging as the active partner in rectal intercourse.

In the other case, the heterosexual twin, rejected by his mother, adopted a passive attitude in the oedipal period, accepting his

brother's preferential position with his mother. However, he was not without some encouragement in his relations to women, having had the opportunity for closeness with a surrogate mother figure.

One additional case of divergent sexual behavior in one-egg twins has been brought to our attention by Professor L. A. Hurst of the University of Witwatersrand, South Africa. The twin closer to the mother was also homosexual. In his object relations, he was directed toward playing with girls as a child. At age 6, he wanted to be a girl and had desires to dress in girl's clothing. Later his longings to change his sex were more pronounced and he entertained the hope of undergoing an operation to become a female. The heterosexual twin was more outgoing and associated with male playmates. The homosexual twin's sexual fantasies were of himself as a girl and he experienced no erotic arousal with females. Information regarding parental prenatal fantasies, naming, and anatomical difference were not available.

DISCUSSION

It must be emphasized that the finding of suitable subjects is most difficult for this type of case study. In this small series of four identical twin pairs, only two twins were available for psychoanalysis, one heterosexual and one homosexual, not from the same pair. Complete analysis provided insight in depth and brought forth with singular clarity the importance of early object relations for establishment of sexual identity. The complex interplay of the initial foci with later events, adding to or decreasing their effect, can only be traced by the detailed investigation permitted by the psychoanalytic tool. In the cases not so studied, the finding of similar influences suggests that these factors may be significant hallmarks reflecting the underlying transactions between the parents themselves and the parents with their children. However, it must be pointed out that the analytic process alone failed to elucidate important factors concerning the parental fantasies, naming, and anatomical markings.

Freud postulated homosexuality as resulting from the interaction of constitutional and environmental factors. Subsequently, other investigators have focused on various aspects of this continuum emphasizing the importance of particular genetic or experi-

ential influences. Psychoanalytic formulations have emphasized oral fixation(13), the identification process, the oedipal conflict (1), dependency and power strivings(16), pre-adolescent relationships(17), and parental permissiveness toward homosexual activities(18).

In the present report, study of parental personality patterns and attitudes unfolding in transactions with their twin children reveal certain salient factors. Thereby, several factors are suggested as being generally significant and perhaps fundamental in revealing important areas affecting the development of specific behavioral patterns. These factors are the prenatal fantasies of the parent with regard to the sex of the twin, the difficulties occurring in parturition, the naming, the anatomical differences, and the position of the father in the family. These forces set in motion a series of transactions which leads to the preference of one twin by one parent and the other twin by the other. Once established, these attitudes are reinforced by subsequent transactions affecting the rearing of the child. These attitudes are carried over into the types of object relations encouraged by the parents and their activities in the home and with other children, thus developing into a consistent pattern. Such transactions affect the intensity of the oedipal conflict and its outcome. It appears that the pre-oedipal identification with the mother may lead to avoidance and repression of erotic interest in females which also effects later sexual experimentation. Prohibition against homosexual activity seemed to be effective in preventing eruption of such behavior only in the cases of the twin associated with the father, whereas prohibition against relationships with girls seemed to determine the choice of sexual object and sexual acting out in the homosexual twins. Where attenuating dynamic factors operated, as was the case in one homosexual twin, he was less rigid in his homosexual orientation and more subject to favorable outcome in psychoanalysis.

Accepting the complexity and the limitations due to the rarity of such twin cases, this study reveals certain intrafamilial determinants of divergent sexual behavior in four sets of one-egg twins and one two-egg

male twin pair. The data were obtained from psychoanalytic and psychotherapeutic treatment, interviews with the parents and the non-treated twin, psychological tests, and biological tests for zygosity. Certain factors, alone and in combination, were found variously to represent condensations and foci of parental attitudes later to unfold in interpersonal transactions determining psychosexual role definition.

The male twin who became homosexual was most closely associated with the mother. Forces leading to such selection included: prenatal fantasies of the mother for a girl and allocation of one twin to this role; greater maternal care given to the weaker child; slight anatomical differences leading to easy identification and special maternal interest and handling; and difficulties in parturition leading to rejection of one twin. In all four male twin cases, the child whose name is most closely associated with the father evolved the masculine role. In the female pair, the first born, heterosexually oriented, was given the preferred name for the paternal grandmother whereas the second was given a less valued name and one with male significance. These factors appear to be significant focal points in the identification process. The pre-oedipal factors unfolding in interpersonal relationships influenced the nature and resolution of the oedipal conflict, attitudes toward playmates and activities, and later genital object choice influencing the eventual definition of the sexual role.

The male twin who was closer to the mother adopted the homosexual role, whereas the female twin closer to the mother was heterosexual. It is suggested that early prenatal and immediate postnatal association of the male twin with the mother leads to acceptance of the homosexual role with little interest in treatment or change. The male twin who identified with the father adopted a heterosexual role and in the case of the female, homosexual orientation with masculine attributes. In the families of the male twins, the mother was the dominant partner with the father playing a passive role or was actively derogated by the mother. However, out of such conflict may arise strivings in the twin who identifies with the father to attain an ego

ideal of the appropriate social and biological role, even though the parental stimulus was relatively weak or degraded as was the case with the degraded father figures in this study.

Generally, the twin who received the more active mothering had greater ego strength and adaptive capacity and more effective psychological defenses.

Findings in the two-egg male pair similar to those in the one-egg male pair lend support to the hypothesis that in the cases studied the intrafamilial experiences are significant determinants of the sexual role.

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A SURVEY OF SELECTED GERIATRIC-PSYCHIATRIC FACILITIES IN NORTHERN EUROPE

PART I: ENGLAND

STANLEY H. CATH, M.D.¹

Under the sponsorship of the Boston Society for Gerontologic Psychiatry² an attempt was made to determine both current status and foreseeable progress in attitudes, practices, and facilities in caring for the aged in the following lands: England, Norway, Sweden, Denmark, Holland and France. A personal interest and objective was to learn of psychological attitudes towards, values placed in, and consequences of three-generational homes in differing cultures, and to compare them with our own. While this report is not considered in any way to be comprehensive, it could not be isolated from the general medical, sociological, psychological, cultural, political and economic way of life of the nations surveyed.

A survey is an attempt to gain knowledge of an external reality, but, as we see through our own particular observing lenses, what we see represents an evaluation restricted by one's prejudice, regulated by one's experiences and colored by affective responses related to the meaning and content, which may be particularly threatening if it is "in conflict" with cherished notions and expectations of how the observed should be. This then is a very personal account of my observations as they filtered through my own psychiatric lenses.

First in the itinerary were the British Isles. The number of people in England over the age of 75 has increased 25% in the last 10 years. Nearly 95 of 100 elderly people live in their own homes, either alone, with relatives or with friends. There is no doubt this is where they prefer to be,

and only if there is no one to help, and as a last resort will they reluctantly seek admission to residential homes(1).

Many of the "normal retired" in Great Britain, if fit and well, go to the southern coast where they may enjoy a more moderate climate(2). They rent small bungalows, usually with a little garden, but tend to remain isolated, often without either energy or interest in establishing new friendships. Generally they become acquainted with the people that are adjacent—over the garden walls, on either side or across the street, but less frequently with those "in back" or down the street. It is an English impression that English people seek and welcome isolation. As social workers have been, and still are, regarded predominantly as snoopers, it was thought that our type of general program for aging, so often integrated with case work, would not go at all well in Great Britain. On the other hand, domestic help through local authorities is usually available to people who are not able to care for themselves, and this is welcomed(3).

Dr. Davison, consultant geriatrician for Cambridge University, has pointed out in a recent publication that, historically speaking, the needs of the elderly nearly swamped the National Health Service when it was founded thirteen years ago(4). A great number of beds was needed, and the care of the chronically ill aged generally fell to the general practitioner. While he believes geriatrics should be realized as a specialty, the geriatric specialist's responsibility is, perforce, to return the patient to his home and the general practitioner as soon as possible. Accordingly, it is planned that complete care requires beds for long-stay cases, day hospitals for patients who can sleep at home, outpatient services and diagnostic services—usually based in the nearest general hospital. This must include physio- and occupational therapy departments. The aim of the country health offices

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² The Boston Society for Gerontologic Psychiatry, Inc., was organized in July, 1960, by its President, Dr. Martin Berezin. The object of this group "shall be to further by all proper and legitimate agencies and means the study, research, teaching and clinical applications of the principles of gerontologic psychiatry."

of Cambridgeshire, for example, is to link the hospital, general practitioner and local authority by an integrated service. It is the responsibility of the state to care for the aged; but, as they cannot "legislate for loneliness and rejection," these are factors little attended.

Barton, *et al.* (5), tell us that in order to make it possible for most older people to stay in their homes, steps have been taken to provide assistance at many levels.³ The government does build housing units, often of the one-bedroom type. In England the family doctor's service is free, as are day centers and hospital clinics, which are increasing in number. Home services for the elderly include health visitors, home nurses, domestic help, sitters in, and volunteers who do laundry, medical dressings, help with bathing, and perform many, day-to-day chores including preparing meals; an Old People's Welfare Committee⁴ supplies information about available services.

"Assessment units" attached to general hospitals evaluate problems of geriatrics as they arise and a geriatric psychiatrist is available to all doctors and clinics for consultation.

In London I was received by Dr. Jeffrey Tooth, the principal medical officer in the Ministry of Health, and his assistant in geriatrics, Dr. C. A. Boucher. Approximately 30% of the mental hospital population is over 65. Most of the problems are not created by irreversible cases but by those who "with just a push" might be activated and would hopefully reduce hospital population by 50%. A great deal depends on the attitudes of the personnel, as most older people stay in the hospital longer than their physical needs demand. The duration of stay is at least 6 weeks, and they try to maintain a revolving-door policy so pa-

tients may come and go. As there is no overcrowding in any mental hospital at present in England, this policy seems effective. An effort is being made to break up large mental hospitals and make them part of smaller general units. It is expected this trend will facilitate geriatric care, thus taking the burden off mental hospitals.

Geriatric patients requiring inpatient care fall into 3 main groups, according to length of stay. Most hospitals admit all patients into a special unit or group of wards for investigation and treatment, and almost three quarters of these patients are now discharged within 3 months. This is called the "short-stay group." Others are transferred to wards that are usually situated in the main section of the hospital where 80% of the resident population are housed. The majority of these are able to leave within 2 years, and 4% of all discharges occur after the 5th year (6).

In English medical schools, as in ours, no special time is allotted to the problem of geriatric training. However, as doctors are being confronted more and more with the elderly, something will have to be done in a short time. Those who have become specialists usually have completed a year or two of work in a geriatric unit after their "qualification," as well as a year or more of post-graduate training. Occasionally, early in practice application for the post as consultant to a geriatric hospital is made, but this is not the general rule.

In Oxford I had a brief interview with Dr. L. Z. Cosin who lost no time in acquainting me with our "antiquated" geriatric practices in America. In his opinion, we are unaware particularly of the epidemiological problems involved and tend to make problems where none exist at all. His emphasis is on getting patients out of the hospital at any cost, but in the best condition possible, and returning them even to isolated rooms where they may be alone day or night, no matter if confused, dirty and generally regressed. It is at this point the English appear "one up" on us or meet the problem with practical—even if distant, by our standards—ingenuity. Dr. Cosin believes that most illnesses and psychological regression associated with aging are precipitated by the battle for [physical] sur-

³ *Impressions of European Psychiatry*, a new book by Dr. Walter Barton, *et al.*, which I had the pleasure to read just before I left for Europe, provided me with much valuable background and comparable data that enriched my own understanding of all that I saw. My indebtedness to these authors is great indeed, and with their permission I have quoted portions liberally where it seemed appropriate.

⁴ National Old People's Welfare Council, administered by Miss Bucke, 28 Bedford Square, WC1, London.

vival. One always has first to help calm the acute medical condition that has prompted the regression(5). Here at Cowley Road, under his administration, is a "particularly comprehensive unit" that is described as "remedial." Only 40 or 50 are in admittance at any one time and most of the survivors are successfully activated and, accordingly, expected to leave the hospital within a very short period. In fact, there are only 6 permanent beds for bed-fast patients. Interest is lacking in home care programs, but if a patient is returned to sleep alone at home and needs help, then volunteers are used, as described above.

The psychiatrist, then, is part of the medical team and engages almost in direct medical care. There are home visiting teams who attempt to keep people out of hospitals, but in this particular center in Oxford a most utilitarian setup exists: if someone is found at home in need of socializing, he will be picked up in the morning by bus, transported to a geriatric day hospital and returned home in the evening, on the theory that the family, if spared a full day's contact with a demanding, confused, senile patient, will be more able to tolerate him in the remaining hours together. Active treatment programs of occupational therapy are encouraged, but none of this takes precedent over the intensive medical care which is necessary to cope with the disorder that initiated the process. Every effort is made to restore and "maintain painless physical independence" and thereby keep the patient in the community, and it is surely in this regard that this setting is unique.

Barton gives the following picture of the movement of patients in and out of Cowley Road Hospital, as well as an orientation to care :

Possibly up to 40% of the patients first admitted will die, most of them in the first 30 to 60 days. In 90 days only 14 remain in need of full medical and nursing care. (The figure drops to 3% after 6 months.) Fifty percent of the survivors can be discharged, and only 18% require continued residence in the long-stay annexes. The others are soon up, ambulated, and seldom in the hospital more than 14 days.

Gradually, those who remain are moved successfully to less-staffed sections and may

be sent to an ambulatory care unit, if not home. As soon as a person can care for his own room and make a proper pot of tea, he is considered ready for discharge. Cosin uses five approaches to restore patients to independence :

1. Pathological and biochemical. He studies people to determine hypoxia, electrolytic imbalance, cardiac decompensation, *etc.*, and attempts to restore physiological equilibrium. He checks hemoglobin regularly and prescribes a high protein diet with high vitamin B intake. Even in his day center, he is said to be most careful about diet.

2. Psychological. He attempts to restore interest, relieve loneliness, and helps the individual feel wanted and important to someone.

3. Sociological. Attempts are expended to solve family problems and ease economic burdens.

4. Therapeutic. This is an acute comprehensive medical program—physical therapy, occupational therapy, *etc.*, graded as to what the patient can do, and small groups with social interaction as soon as possible. In addition, they have a 3-day geriatric hospital where a patient can be admitted for study alone and where others can come to recuperate, if only for a day.

5. Special Rehabilitation. Assessment is made of residual disability and, if feasible, steps are taken to restore as much self sufficiency as can be.

My informants cared little about the prevalence or significance of three-generation homes, or, for that matter, conflicts within the individual or his environs. The mention of dynamic problems led Cosin to discuss how we neglected our opportunity to work with older people by worrying too much about what happens to them. This general expectation that the patient will manage by himself and assume responsibility for his own care seemed strikingly inconsistent with the concepts of socialized medicine but in accord with the notion that long hospitalization may augment regressive changes and dependency. The value of this policy in terms of family stress or its effect on the course of the individual's life was not discussed. Psychotherapy seemed held in little esteem as a therapeutic tool.

COMMENT

A very personal impression is that English geriatric patients as a group seem to

demand less, are easier comforted and appear less regressed than many of their American counterparts. Whether this is, as Barton suggests, part of the British reaction to authority or related to other factors is not an issue here, but one should never evaluate such discreet observations as a necessarily desirable state of affairs. As McKenzie points out in his chapter in the same book on European psychiatry(5), Scottish school children are polite and respect authority, but at the same display extreme sadism to their fellow students. A deep conviction that the British have met a practical problem head on with all they have is shared, with the observation that they have only begun to scratch the surface. Their very respectable program is admittedly inadequate. In this observer's opinion, it is one that hardly maintains or exploits the dignity or potential worth of the elder citizen any more than does our own. Isolation, even with partial or complete self care, is no barrier to the increasingly regressive changes apt to occur without mental and social stimulation. Much evidence exists in England, as well as in the United States, for the need to be stimulated continually by interaction with others as a barrier to psychological regression and increased narcissistic withdrawal. Their approach does have the advantage of decreasing the communities' needs for hospitals and, accordingly, the financial ex-

penditures of the National Health Program. The attitude, "One cannot legislate for loneliness and unhappiness," unfortunately contains sufficient truth to discourage the kind of effort contemplated and already instituted in some cities by many American thinkers facing similar problems(7). I would agree the problem is not legislative by nature, but nevertheless requires intelligent legislation and planning for support. This would be directed towards making available "crisis consultation" at certain turning points in life when external forces may help tip the scales in unfavorable directions.

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MALE HOMOSEXUALITY, PARANOIA, AND THE SCHIZOPHRENIAS¹

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The possible role of homosexuality in the etiology of paranoia was described by Freud following his analysis of Dr. Schreber's autobiography published in 1911(1). From the simple, and consciously unacceptable statement, "I love him," he demonstrated the changes necessary for the patient's conscious acceptance that lead to various misconceptions frequently held by paranoids. By changing the subject, *i.e.*, "She loves him," the individual develops morbid jealousy, thus eliminating projection. Changing the object results in, "I love her," which by projection becomes, "She loves me," or erotomania. Changing the verb leads to "I hate him," which projected becomes, "He hates me," or delusions of persecution. Finally, protection is obtained by saying, "I do not love at all, I do not love anyone," which restated is, "I love only myself," leading to megalomania.

Considering the significance of these ideas, relatively little research has appeared attempting to prove or disprove the above, much of it suffering from strong opinion, small samples, or lack of adequate research design.

Theoretical papers have been contributed by Ferenczi(2-5) and others(6-10), including Freud's "Certain Neurotic Mechanisms in Jealousy, Paranoia, and Homosexuality" (1922) (11). Other authors have suggested modifications or entirely different causes for paranoia. Nunberg(12) suggests the sufferer wishes to counter his feelings of weakness by absorbing the other male's strength through fellatio. Salzman(13) sees a pathologic denial of low self esteem leading to grandiosity, then inevitable rebuff and projected blame leading to delusions. Szasz(14) emphasizes not homosexuality, but interest in one's own body as the last remaining object to which to relate. Ehrenwald

(15) sees these as symbiotic patients who have a choice of compliance with the omnipotent parent leading to passive homosexuality or rebellion leading to paranoia. Lastly, Knight(16) feels that before the love (of him) is hatred which is hidden by love of the father.

Papers of greater research orientation have tended to confirm the theoretical ideas of Freud(17-19) including several unpublished psychology doctoral dissertations(20-24).³ Others have not been confirmatory (25, 26). A study by Klaf(27) revealed equivocal results when women paranoids were examined. Most of the studies reported have limited themselves to males.⁴ Finally, Cameron has this to say in the *American Handbook of Psychiatry*: "When we come to the primacy of homosexual fixations (in paranoia) we encounter less contemporary agreement"(28).

Klaf and Davis(29), in their study of 150 male paranoid schizophrenics and 150 controls, found the paranoids were 7 times more frequently preoccupied with homosexuality, had twice the incidence of overt homosexual experiences, and had 8 times the recorded incidence of religious preoccupation (the significance of the latter to homosexuality was discussed by Freud in *The Future of an Illusion*(30)). In addition, 84.7% of the paranoids felt they had male persecutors, 5.3% female, and 10% both sexes.

In the foregoing study, the controls were non-psychotic, non-paranoid patients, *i.e.*, having 2 major variables from the test sample. Is it possible the schizophrenia-non-schizophrenia variable was as important a determinant as the paranoia—has a non-

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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³ We are indebted to Howard M. Wolowitz, Ph.D., Univ. of Mich., Psychol. Dept., for the unpublished doctoral dissertation references.

⁴ A study of women paranoids by Moore, R. A., Benedek, E., and Wallace, J., using the same research design as this study and asking the same questions was abandoned due to inadequate records. Apparently, women paranoids and male psychiatrists are less likely to talk about homosexuality than male paranoids and male psychiatrists.

paranoid variable? Clinical observation repeatedly demonstrates the regressed state of ego functioning in schizophrenia, with archaic fusions of self and object world, ease of identifications, and amorphous sexuality. In discussing the mechanisms of paranoia relative to Schreber, Freud emphasized fixation to an infantile auto-erotic state in schizophrenia which he differentiated from paranoia, stating, "Moreover, it is not at all likely that homosexual impulses, which are so frequently (perhaps invariably) to be found in paranoia, play an equally important part in the aetiology of that far more comprehensive disorder, dementia praecox"(1). In any case, we felt it justified to reduce the variables by using only schizophrenics as controls.

Two hundred and five male schizophrenics hospitalized for intensive psychotherapy at the Veterans Readjustment Center, a Unit of the University of Michigan Medical Center, were chosen for the study. They do not represent all patients with schizophrenia admitted during the period 1946-1959. It is, however, a group selected only in the sense that they were schizophrenic without question according to current nomenclature. All charts were carefully studied independently by four raters and not used if one rater doubted the diagnosis.⁵

Of the 205 patients, 128 were paranoid. The 77 non-paranoid schizophrenic patients used as a control group consisted of 54 undifferentiated, 12 simple, 6 catatonic, 4 schizo-affective, and 1 hebephrenic. Average age of the paranoids was 30.0 years and of the non-paranoids 29.1. Seventy-five of the paranoids were married, 10 divorced, and 43 single, while 37 of the non-paranoids were married, 3 divorced, and 37 single.

Data used in the charts included hour by hour psychotherapy transactions, case conference summaries and opinions, psychological tests, social service histories, observations of behavior by nurses, and occupational and recreational therapists. Since no

consistent and specific effort was made to get information on homosexuality, this material was generally produced spontaneously during therapy. Whether this technique obtained data nearer the "truth" than asking specific questions is unknown. In addition, it is not possible to determine if theoretical expectation made the observers more sensitive to positive data regarding homosexuality given by paranoids.

The authors surveyed each chart looking for history of pubertal overt homosexual activity, occasional adult overt practice and predominant adult homosexuality. By homosexuality, we are referring to oral or anal practices or mutual masturbation. During psychotherapy, patients frequently raised the subject of homosexuality, perhaps feeling accused of this by others, accusing others, or wondering if they themselves were homosexual. We recorded if the subject was raised once, twice, or more than twice. While these items are relatively objective, the data, wherein the psychiatrist or testing psychologist stated that the patient was latently homosexual, were more subjective. For this, a positive rating required a specific recorded opinion by either the psychiatrist or the psychologist.

RESULTS

Table 1 shows a comparison of the data obtained from the 128 paranoid schizophrenics and 77 non-paranoid schizophrenics. There is a statistically significant greater incidence of total overt homosexuality ($P > .02$), total adult homosexuality ($P < .02$), and occasional adult practice ($P < .05$) among the paranoids but an insignificantly greater incidence of pubertal acts only and predominant adult homosexuality.

Paranoids show a significantly greater amount of homosexual preoccupation during psychotherapy, both for total amount, as well as where found more than twice ($P < .001$). They were judged significantly more often to be latent homosexuals by both psychiatrists ($P < .001$) and psychologists ($P > .001$) alone, and in total number allowing for over-lap of opinion ($P < .001$). Finally, taking all data and opinions, something positive regarding homosexuality was found in 78% of the paranoids and 47% of

⁵ We were assisted in the earlier case selection by Frieda Ramsuer, MSW, Supervisor of Social Service, and Marvin Brandwin, M.A., staff psychologist, both from the Veterans Readjustment Center.

TABLE 1
Comparison of Data Indicating Latent or Overt
Homosexuality

	(128) PARANOID SCHIZOPHRENIA	(77) NON-PARANOID SCHIZOPHRENIA	CHI SQUARE	P
Overt homosexuality	38 (30%)	12 (16%)	5.18	>.02
Puberty only	12 (9%)	6 (8%)	N.S.	
Adult	26 (20%)	6 (8%)	5.72	<.02
occasional	21 (17%)	5 (6%)	4.27	<.05
predominate	5 (4%)	1 (1%)	N.S.	
Homosexual preoccupation	78 (61%)	23 (30%)	18.57	<.001
Once during therapy	19 (15%)	5 (6%)	N.S.	
Twice during therapy	17 (13%)	9 (12%)	N.S.	
Over twice during therapy	42 (33%)	9 (12%)	11.49	<.001
Latent homosexuality	86 (67%)	29 (38%)	17.03	<.001
Psychiatrist's opinion	75 (59%)	20 (26%)	20.56	<.001
Psychologist's opinion	54 (49%) (111 tested)	17 (25%) (69 tested)	10.31	>.001
Positive history or opinion	100 (78%)	36 (47%)	21.33	<.001

the non-paranoids, a highly significant difference ($P < .001$).

In an attempt to find more graphic representation, an arbitrary point system was established on a basis of 0 to 10. Zero meant no suggestion of homosexuality and 10 the most positive suggestion possible from this type of data. One point was given for pubertal activity, 2 for occasional adult, 3 for predominant adult practice, 1 for preoccupation once in therapy, 2 for twice and 3 for more than twice, 2 for the psychiatrist's opinion of latent homosexuality and 1 for a similar opinion by the testing psychologist.

TABLE 2
Average Points by Marital Status and Diagnosis

	N	AVERAGE POINTS
Paranoid schizophrenia	128	3.63
Married	75	3.15
Divorced	10	2.80
Single	43	4.67
Non-paranoid schizophrenia	77	1.61
Married	37	1.16
Divorced	3	2.33
Single	37	2.00

Table 2 demonstrates that the paranoids had an average of 3.63 points per patient and the non-paranoids 1.61 points per pa-

tient. Conceivably, marital status could be a crucial variable. If by coincidence the paranoids were more likely unmarried, and if unmarried men showed greater homosexual orientation, it might mean we were comparing a group of largely unmarried men with a group of largely married men. The paranoia might be coincidental in the low-marriage group. However, the opposite occurs in that the paranoids rate higher in points per man and also are more likely to be married. It is noted that unmarried men in each group have a higher average point score.

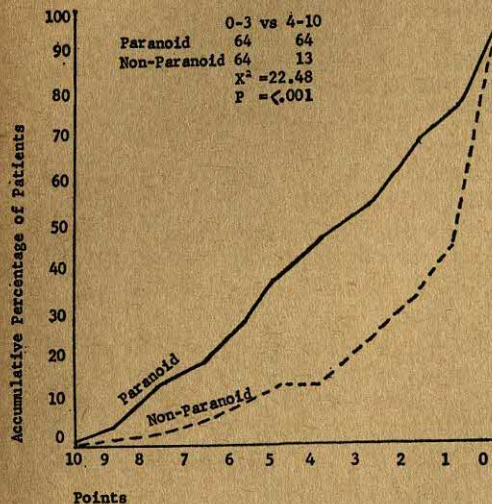
Figure 1 contrasts the differences in points per patient, plotting an accumulative percentage of cases against points per patient. The more the curve is to the left, the greater the homosexuality. At the mid-point for the paranoid group, 64 have 4 to 10 points and 64 3 or less. At this point, of the 77 non-paranoids, only 13 have 4 to 10 points with 64 3 or less. This difference is highly significant ($P < .001$).

COMMENT

These findings demonstrate a consistency in that each item studied for homosexuality—overt behavior, preoccupation, and examiner's opinion—is significantly higher for the paranoid schizophrenic group than the non-

FIGURE 1

Comparison by Points per Patient



paranoid schizophrenic group. Our results are in the direction of most previous studies, especially that of Klaf and Davis (27). The reservation we had of their study in which paranoids schizophrenics were compared with non-paranoid non-schizophrenics appears to be unjustified. The variable of schizophrenia versus non-schizophrenia does not seem to be a significant factor.

An important question remains when such subjective data are used. How many patients were not candid? The chances seem that a considerably greater number might be positively scored if our insight were greater. All that can be concluded is that the paranoids were more likely to *tell* of their overt experiences, more likely to *talk* about homosexuality, and more likely to *impress* the examiners with their homosexual traits.

The preoccupation with homosexuality usually involved a defensive reaction of projection, in the paranoids usually to a delusional degree. Still, the paranoids showed a higher incidence of *overt* homosexual behavior (30% versus 16%), something the paranoid mechanism is supposed to help them avoid. Unfortunately, the data did not reveal when the overt acts occurred, but it is our impression this was predominately earlier in life before the paranoid psychosis developed. This would be consistent with the concept of the paranoid system acting to prevent emergence or re-

emergence of overt urges. Overt homosexuality was rare during the florid paranoid psychosis.

The long held opinion that paranoia is a defensive device against unacceptable homosexual urges has been supported, but by no means proven by this study. This information may be helpful in planning the treatment of paranoids, particularly in an inpatient setting. Circumstances that point to or stimulate the paranoid's homosexual strivings often precipitate a storm. This would include assignment of the paranoid to a male psychiatrist with feminine mannerisms, admission to the same ward of an effeminate or overtly homosexual patient, inadvertent touching of the patient by the psychiatrist or another patient, startling the patient by approaching him quietly from the rear, and so on. During therapy, attempts to bring such urges to consciousness or the development of homosexual feelings for the psychiatrist may provoke an angry or frightened withdrawal or an increase in delusional thinking. Thus, with expectant "insight," it is possible to avoid those circumstances that may be too threatening to the paranoid. If we must handle the problem of homosexual feelings with the paranoid, we must do it more gingerly and supportively than with other patients.

It should be noted that there was some suggestion of homosexuality in 47% of the non-paranoid schizophrenics (Table 1). How much greater this is than would be found in a normal population is unknown since the techniques of this study could not be applied to a normal population. The results suggest that the non-paranoid schizophrenic may be very anxious in this area too. However, it seems generally easier to handle this fear more directly in therapy, perhaps, because we are usually less fearful of being frank with non-paranoid schizophrenics. Another significance of the finding of considerable homosexuality among non-paranoids is that the factor of defense against homosexuality cannot be the only decisive factor leading to a paranoid type of schizophrenia.

SUMMARY

Two hundred and five male schizophrenic inpatients receiving intensive psycho-

therapy were studied to determine the relative estimate of homosexual orientation between 128 paranoid schizophrenics and a control group of 77 non-paranoid schizophrenics. Previous theoretical and research publications suggested a difference would be found, and this was found to be true.

To a statistically significant degree, the paranoids showed greater incidence of past overt homosexual acts, preoccupation during therapy with homosexuality, and were judged latently homosexual more often by both psychiatrists and testing psychologists.

Anticipation of homosexuality as a great threat to paranoids aids in planning their therapy to avoid unnecessary storms or frightened withdrawal.

Since a considerable number of non-paranoid schizophrenics is also troubled by homosexual desires, latent or overt, other factors must be sought if we are to understand why paranoids are paranoid.

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AN EFFECT OF RESEARCH TRAINING IN THE STUDY OF PSYCHIATRIC DRUG TREATMENT

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Recently some results of a survey of the adequacy of reporting and design of chemotherapy research studies appearing in psychiatric journals were published(9). The present article will record the results of a supplementary analysis of the same data, completed after the first analysis had been presented at the fifth Annual Conference on Chemotherapy in Psychiatry of the Veterans Administration in March 1961. The basic article presented a general assessment of the literature. The authors hoped to encourage further interest in thorough reporting and methodological care, and also to encourage others to study the literature of psychopharmacology systematically and critically to understand and improve it. The more recent analysis provides results primarily of interest to psychologists and to persons responsible for the development or support of research in psychiatric drug treatment.

The reader may consult the original article for details of procedure and results. Briefly, however, the authors surveyed 6 psychiatric journals for the fiscal years 1957 and 1960 and identified articles (45 in 1957 and 61 in 1960) which were primarily concerned with the therapeutic value of tranquilizing and energizing drugs. Each article was subsequently read and reevaluated using a checklist based on "Recommendations for Reporting Studies of Psychiatric Drugs" (2).

The checklist included 28 items of information that might be expected to be reported in such literature; these dealt with treatment setting, the selection and description of patients, drug administration, and the evaluation of change. There were 7 additional items representing methodological features commonly considered desirable in psychiatric drug research; these were checks for the formal statement of a hy-

pothesis, evidence of concern for the reliability and/or validity of the assessment technique, the use of statistical analysis to avoid false conclusions, the double-blind procedure in drug administration and patient evaluation, definition of the criteria used in evaluating change, the use of control conditions, and the use of a companion substance (active or inert) as a form of control.

By tallying the reporting and the methodology items, it was possible to obtain an "R" score and an "M" score for each article. The R score, with a possible range of 0-28, indicates the amount of specific information reported; and the M score, with a possible range of 0-7, the number of well-accepted methodological features utilized in the work.³ The distributions of M and R scores for the 2 years are presented in Figure 1. As was predicted, a statistically significant ($p < .05$) improvement in reporting adequacy was found. However, the mean increase in R scores was attributable to an increase in the number of articles of modal reporting quality and to a relative decrease in the amount of very poorly reported literature, rather than to an increase in the number of very well reported articles. The bimodal distribution of M scores was not expected and did not support the prediction made in the original work that this type of literature was improving in methodological quality. On the contrary, in this area of publication there appears to be a large increase in the number of articles of the least methodological adequacy.

The present analysis was inspired, in part, by the bimodality of the M score distributions, a finding the more striking because it was unexpected and was repeated in both years surveyed. The bimodality suggests,

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³ The R and M scores seemed to be only minimally related. A scatter plot of M scores against R scores for each article did not suggest a relationship, except possibly that the highest M scores ($M=6.7$) were always associated with high R scores. *Eta*, which exceeds *rho* in such data, was 0.35 ($F=1.96$; d.f. 7.98; $.10 > p > .05$).

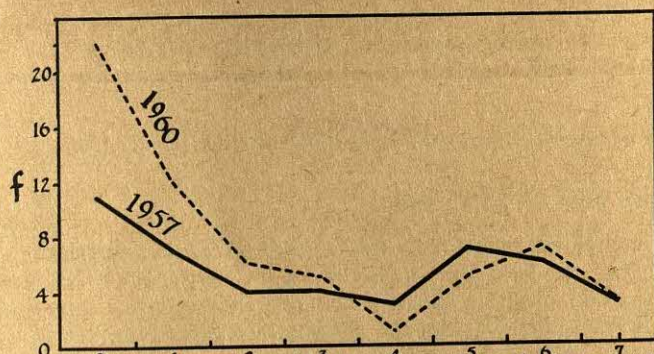


Fig-1 a. Comparison of M score distributions 1957-1960

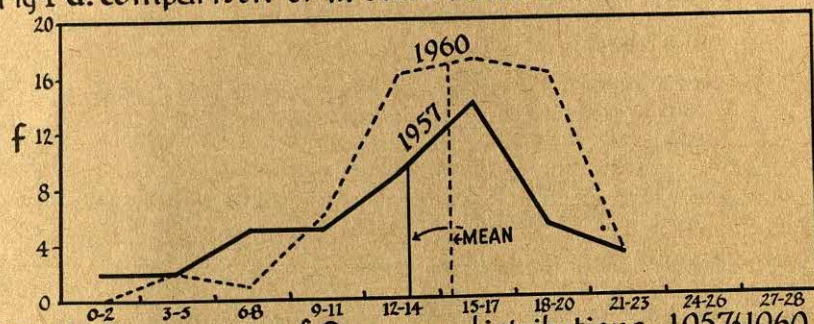


Fig-1 b. Comparison of R score distributions 1957-1960

of course, the presence of two unrecognized factors, one yielding a roughly normal distribution and associated with relatively sophisticated research design, and the other a J-shaped distribution of poorly designed studies. Another interesting consideration was the apparent constancy of area under the upper modal region in contrast with the increase in area under the lower mode.

From the original analysis, it was already known that 3 of the standard methodological features, use of the double-blind technique, use of control conditions, and the definition of evaluation criteria, were all associated with somewhat better reporting and much better procedure. Reasoning that the use of these features might be associated with the investigator's training in research design, the authors reviewed all the articles in the survey to determine as nearly as possible the training background of the investigators. Since it had also been established that articles originating in VA settings showed a similar pattern of somewhat higher R scores and definitely higher M scores, the type of setting of each article was also tabulated. The categories for type of investigator and setting are shown in Table 1, together

with the number of publications falling into each category for both years of the study. R and M score comparisons were made between categories. Formal directional hypotheses were not made, however, because no direct evidence on which to base predictions was known.

RESULTS

The results were first examined separately for 1957 and 1960, and where no statistically significant ($p < .05$) differences existed the data were pooled across years for simplicity of presentation. Because it was necessary to make a large number of t-tests in comparing investigators and settings with respect to M and R scores, a conservative level of significance ($p < .01$) was adopted to minimize the risk of falsely concluding a difference existed. Since there were no directional hypotheses, probability levels reported are for two-tailed tests.

Among the investigator categories, in both 1957 and 1960, the largest number of articles falls in the *MD Only* group (see Table 1). Furthermore, the increase from 1957 to 1960 in number of articles published occurs entirely within the *MD Only* category. The

TABLE 1
Definitions and Frequencies for Categories of Investigator and Setting

CATEGORY	DESCRIPTION	f	
		1957	1960
Investigator			
MD only	All authors listed only an MD degree.	19	41
PhD author	One or more of the authors had a PhD, no doubt usually in psychology. (In a few cases there were no MD's among the authors, but for the large majority of articles falling in this category the implication is that technical training in medicine and also in research design were represented in the team responsible for the research.)	13	13
PhD acknowledged	No PhD author, but the assistance of a PhD was acknowledged, usually in a footnote.	5	1
Other	No PhD author, but the authors did include someone other than an MD, such as graduate students, sub-doctoral individuals, or RN's.	8	6
Setting			
Federal	Any Federal setting. (All but one of these articles originated in VA settings, mainly hospitals.)	8	5
State	Any state setting. (Usually these articles were from state hospitals.)	19	25
Medical school	Any article apparently authored by medical school personnel and conducted in a hospital associated with the school.	5	7
Private practice	Any article authored by an MD listing a non-institutional address and not specifying an institutional source for the subject sample.	4	12
Other	Setting not included in the above categories (e.g., foreign).	3	5
Combined	Any combination of the above categories.	6	7

frequency for *PhD Author* remains constant and the frequencies for *PhD Acknowledged* and *Other* categories are smaller and relatively constant.

The M score data for the investigator categories are summarized in Table 2. Per-

TABLE 2
M and R Scores for Each Category of Investigator

CATEGORY	f	M		R	
		MEAN	S.D.	MEAN	S.D.
PhD author	26	5.0	1.7	15.7	4.5
PhD acknowledged	6	2.8	2.8	12.8	6.1
Other	14	2.8	2.3	14.4	3.0
MD only	60	1.3	1.7	See Table 2a	

TABLE 2A
R Scores for PhD Author and MD Only for 1957 and 1960

INVESTIGATOR	1957			1960		
	f	MEAN	S.D.	f	MEAN	S.D.
PhD author	13	15.8	5.5	13	15.7	3.4
MD only	19	11.7	4.8	41	15.1	4.2

PhD Acknowledged, where $p < .03$). The difference between the *PhD Author* and *MD Only* categories is especially large and reaches a high degree of statistical significance ($t=9.14$, $df=58$). Considered along with the findings concerning the frequencies of articles in the *MD Only* and *PhD Author* groups, this difference accounts for all the main features of the M score distributions in Figure 1, that is, the areas and bimodality, the relative areas under each mode, the change from 1957 to 1960 in the lower

happens the most outstanding finding in this report is the difference in M score between the *PhD Author* category and each of the remaining categories ($p < .01$, except for

mode area and the constancy from year to year under the upper mode. Figure 2 and Table 3 help to clarify these points.

Only group. There were no other significant differences between investigators in R scores.

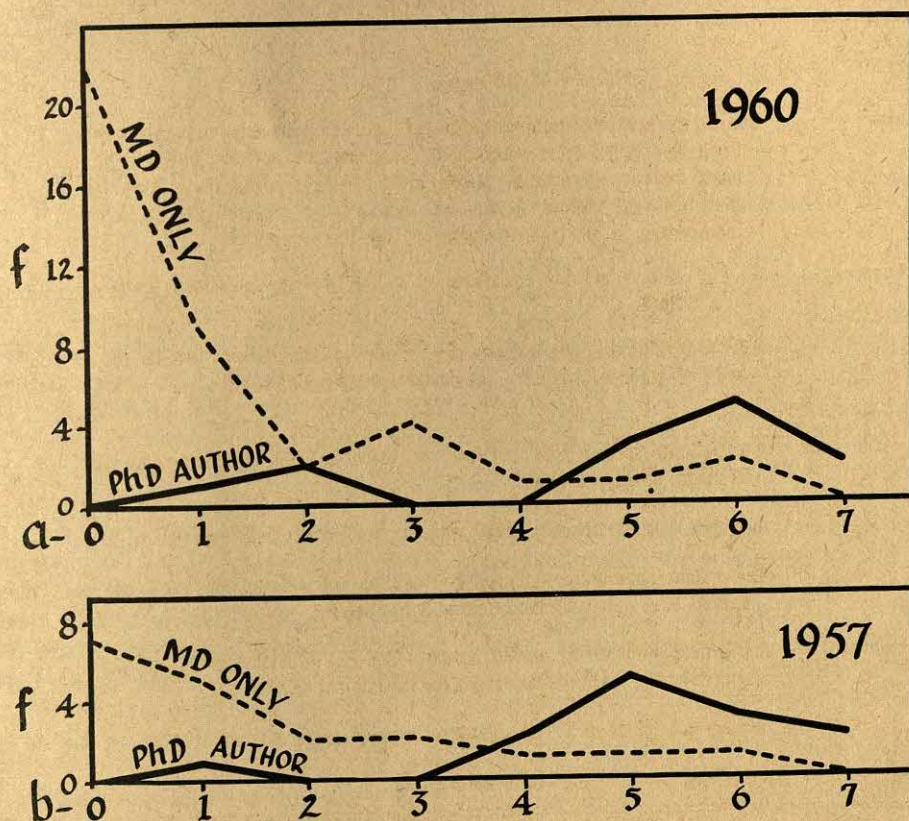


Fig 2. M score distributions for *PhD Author* and *MD Only* categories 1957 & 1960

TABLE 3
Percent of MD Only and PhD Author Articles at
Two Levels of M Scores

M SCORE LEVEL	MD ONLY	PhD AUTHOR
4-7	11.7%	84.6%
0-3	88.3%	15.4%
0-7	100.0%	100.0%

As can be seen in Table 2 and 2A, the differences between categories of investigators in R scores were not so pronounced. In 1957, the *PhD Author* group was significantly higher than the *MD Only* group, but this difference was eliminated in 1960 by a significant improvement in the MD

With respect to setting, Table 1 shows that *State* settings produced the most articles in both years surveyed, and that there was a 32% increase in the number of articles from this type of setting. By contrast, the *Federal* settings produced fewer articles in 1960, and accounted for only a small proportion of the articles in either year. Also, there were notably more articles produced in *Private Practice* settings in 1960 than in 1957. The remaining categories are characterized by small, relatively constant frequencies.

The M and R data for the setting categories are given in Table 4. Articles from *Federal* settings were significantly higher in M score than those from any other type

TABLE 4
M and R Scores for Settings

CATEGORY	F	M		R	
		MEAN	S.D.	MEAN	S.D.
Federal	13	5.2	2.0	16.1	4.6
State	44	2.7	2.4	15.0	4.4
Combined	13	2.4	2.6	14.1	4.9
Medical school	12	2.3	2.0	12.8	4.5
Other	8	1.6	1.8	12.8	4.7
Private practice	16	0.2	0.4	13.8	4.4

of setting; and articles from *Private Practice* were significantly and homogeneously lower than all except the *Other* setting. R score differences were less outstanding but showed a pattern similar to that found for the M score differences.

It is possible to demonstrate to some degree the extent to which the frequency and quality variations within the investigator and setting categories are interrelated. Table 5 shows the major correspondence of

TABLE 5
The Contingency of Investigator Categories with Setting Categories During Each Year *

SETTING	1957		1960	
	MD ONLY	PhD AUTHOR	MD ONLY	PhD AUTHOR
Federal	1	7	1	4
State	11	2	18	5
Medical school	1	2	6	1
Private practice	3	0	11	1

* Cells involving omitted categories all contained few articles; almost half contained none and no cell frequencies exceeded three.

investigators with settings by frequency. As might be expected, articles originating in the *Private Practice* settings were virtually always authored by MD's only. At the other extreme, articles from *Federal* settings were very likely to have PhD's listed among the authors. This polarity parallels that found for M scores. One finding that might not have been expected is that *Medical School* publications in the area of chemotherapy do not typically include PhDs among their authors.

DISCUSSION

It seems clear that the overriding implica-

tions of these data concern the value of research teams in the study of psychiatric drug treatments. The participation in research of this type by physicians is to be expected; it is always implied even in those rare studies when it is not made explicit in authorship. Thus the contributions to this research that follow from medical training ordinarily will be present. What may or may not be present is the influence of training in research design and quantitative methods generally, such as is commonly found in PhD training in the sciences. From the present data it appears that participation of PhDs is the primary determinant of methodological adequacy in this work. Where PhDs participate as investigators, desirable methodological features are typically present; where PhDs do not participate as investigators, these safeguards are not typically present.

It is noteworthy that team research in psychiatric drug treatment occurs with relatively small frequency. There are, of course, relatively few PhDs available and still fewer with active interest in psychopharmacology. In the light of the present data, it would seem desirable to seek ways in which to encourage an increase in their participation.

One may object that the desirability of methodological trappings may be called in question. After all, the tradition of acute observation is valid in this research area (4, 5), as in others. The objection does not seem relevant here, however. The low M articles, as a group, are not considered to be characterized by keen observations or by clever methodological innovations. They frequently have been deplored as nonspecific comparisons (1, 7) and as containing serious subjective biases (3, 6), and they have inspired numerous efforts to encourage methodological care (8, 10).

SUMMARY

Psychiatric journals for fiscal years 1957 and 1960 were surveyed for articles reporting research on the therapeutic value of tranquilizing and energizing drugs. Data concerning the adequacy of reporting and of methodology were collected. There were 36% more articles in 1960 than in 1957. In an initial analysis it was found that most of

the articles in both years and that virtually all of the increase fell at the lower levels of methodological adequacy. In a subsequent analysis it was found that, in general, the increase constituted the contribution of physicians in private practice, medical schools and state hospitals, working without the collaboration of persons trained in the conduct of scientific research. Articles in which such persons had collaborated were found to contain most of the methodological features commonly considered desirable in this research area. The findings were interpreted as supporting the use of interdisciplinary teams in chemotherapy research in psychiatry.

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MURDER AND INSANITY: A SURVEY

JOHN LANZKRON, M.D.¹

If any man think he can judge herein,
'Tis much too weighty ;
neither were it lawful that I try murder,
wreaked in wrath.

Murder is as ancient a problem as human history. The Bible starts with the story of creation, continues with temptation and procreation and then, as soon as a family "unit" is in existence, reports on sibling rivalry, frustration resulting in wrath and fratricide.

The very question of Cain "Am I my brother's keeper?" as well as the description in the Bible(1) of the rituals of symbolic hand-washing of "all the elders of that city that are next unto the slain man," "slain by unknown hand" implies our moral responsibility for a murder committed in our midst.

The psychiatrist has to use his expert knowledge in terms of predictability of anticipated deviant social behavior in order to prevent homicide committed by mental patients. The Mental Hygiene Law (of the State of New York) provides the legal basis for prevention by regulating the commitment and release of "all patients known to be or likely to become dangerous to themselves or others."

The two scientific avenues for research of predictability of deviant social behavior are the statistical and individual. In this paper statistical data are compiled in an attempt to correlate sociological and psychopathological variables.

One hundred and fifty consecutive case records of mental patients committed to Matteawan State Hospital over five years (1956-1961), charged or indicted with murder, were reviewed and evaluated. They were committed because of their "present insanity," *i.e.*, their mental condition at the time of their arraignment in court. We have not included those homicide cases who were committed to our hospital under Section 85 of the Mental Hygiene Law (New York

State) as dangerously mentally ill after having committed homicide while hospitalized in a civil hospital. A survey of such cases has been published previously(2).

TABLE 1
Tabulation of Cases Under Consideration

Sex:		
Male	118	79.0%
Female	32	21.0%
	150	
Race:		
White	86	57.3%
Colored	41	27.3%
Puerto Rican	18	12.0%
Others	5	3.3%
	150	
Age on Admission:		
15-19	10	6.7%
20-29	44	29.3%
30-39	47	31.3%
40-49	17	11.3%
50-59	15	10.0%
60-69	13	8.7%
70-79	4	2.7%
	150	
Marital Status on Admission:		
Single	49	32.7%
Married	44	29.3%
Widowed	32	21.0%
Divorced & separated	25	17.0%
	150	
Methods:		
Knife	55	35.0%
Gun	47	29.9%
Strangled, choked	19	12.1%
Hit on the head with pipe, steel bar, bottle, fist, hammer, rock, boot, stick, etc.	17	10.8%
Thrown to the floor, from roof, out of window, etc. (mostly children)	10	6.4%
Drowned (infants)	4	2.6%
Fire, poison, run over by car	3	1.9%
Gas (own children)	2	1.3%
	157	

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Religious Denomination:

Catholic	92	61.3%
Protestant	53	35.3%
Jewish	4	2.7%
Greek Orthodox	1	0.7%
	<u>150</u>	

Victims:

Wife (incl. 5 common-law)	32	20.4%
Husband (incl. 3 common-law)	6	3.8%
Parents (father 4, mother 2)	6	3.8%
1 son, 1 daughter (adult)	2	1.3%
Infants (own)	10	6.4%
Children (4 own)	12	7.6%
Brother-, sister-in-law, cousin	3	1.9%
Sister	2	1.3%
Girlfriend	15	9.6%
Boyfriend	7	4.5%
Friends 10, neighbors 2	12	7.6%
Doctor 1, transf. agent 1, fellow employees 5, landlady/landlord 2	9	5.7%
Strangers	39	24.8%
1 homosexual partner, 1 prostitute	2	1.3%
	<u>157</u>	

Previous hospitalizations before committing murder

Previous hospitalizations before committing murder	64	42.7%
Previous criminal record	69	46.0%
Intemperate use of alcohol	51	34.0%
Drug addiction	3	2.0%

Motivation:

Homicide as a result of paranoid delusions, delusions of persecution, grandiose delusions, in some cases hallucinations	56	37.3%
Morbid jealousy	23	15.3%
Delusions of infidelity	7	4.7%
Postpartum psychosis	8	5.3%
Sex crime	7	4.7%
Depression	17	11.3%
Armed robbery (9), fight, rage, impulse, catatonic excitement, etc.	32	21.3%
	<u>150</u>	

At least 19 murders were committed while the defendant was severely intoxicated.

Intelligence Rating:

Average	90	60.0%
Borderline	21	14.0%
Dull normal	22	14.7%
Moron	17	11.3%
	<u>150</u>	

Diagnosis:

Schiz., paran. type	38	25.3%
Schiz., catat. type	12	8.0%
Schiz., mixed, undiff.	14	9.3%
Paranoid condition	4	2.7%
Invol. psy., melancholia	2	1.3%
Invol. psy., paran.	6	4.0%
Manic-depressive psy., depr. type	6	4.0%
Psy. due to arterioscl. paranoid trends	7	4.7%
Psy. due to alcohol, paranoid	5	3.3%
Psychosis due to arterioscl., depr.	1	.7%
Psy. w/conv. disorder	4	2.7%
General paresis	2	1.3%
Psy. w/psychopath. personality, paranoid trends	7	4.7%
Psy. w/psychopath. personality, emotion. instab. w/reactive features, ep. of excitement w/and without alcoholism	34	22.7%
Psy. w/mental deficiency	8	5.3%
	<u>150</u>	

Occupation:

Unskilled worker	80	53.3%
Housewife	20	13.3%
Skilled worker	25	16.7%
Professional, intell.	25	16.7%
	<u>150</u>	

It is an axiom that the male offender is more aggressive and violent than the female offender. This explains the ratio 4:1, male versus female killers.

Of female cases, 43% are accounted for by the murder of 10 infants and 4 children by their mothers. Another 40% killed their husband or respective boyfriend.

It is noteworthy that 32 wives were murdered by their husbands whereas only 6 husbands were murdered by their wives. Five times more husbands killed their wives than vice versa; however the ratio of male to female, killing their respective girl or boy friend, is about 2:1.

Concerning the religious denomination one can only note that the percentage of homicidal patients among Jews (2.6%) is disproportionately low in relation to their percentage of the general population. This might be partly due to the moderate use of alcohol by the Jewish population(3) and partly to their religious values. One cannot draw too many conclusions from the high percentage of Catholics among our group;

this is coincidental with demographic and ethnic factors especially in New York City where 4/5 of major crimes in New York State are committed. In a survey of homicide cases made in Baltimore involving family members Guttmacher(4) came to just the opposite result.

Marital status: the disproportionately high number of widowed patients (over 21%) is due to the fact that on admission to our hospital those patients who killed their spouses were statistically carried as widowed. The high percentage of divorced or separated patients will not come as a surprise to those familiar with psychopathic patients. One-third of the patients are single, which also does not come as a surprise to those familiar with schizophrenic patients.

Age group: C. A. DeLeon(5) states in an article about homicide: "... and comparative youth (most slayers are between 21 and 45 years old)." This was found for all homicide cases in the U. S. A. (7,815 in 1958) as well as in our group (2/3).

Victims: 150 homicidal patients killed 157 victims; 4 patients each killed 2 persons, one mother killed her 2 children, another mother killed her 3 children. Seventy-three of the victims (47%) involved family members.

Methods: with the exception of several very brutal, sadistic killings by schizophrenic murderers, 65% of the murders were committed by gun and knife, 12% by strangulation which apparently does not differ much from the methods used by the "sane" killer.

Alcohol: W. C. Wilents and J. P. Brady (6) write "Alcohol was a factor in 31% of homicides..." This coincides with our findings; in 34% intemperate use of alcohol was a contributing factor. However only in 12.7% severe intoxication during the commitment of the crime could be elicited from the records. Addiction to drugs is an insignificant factor in our cases.

As a whole our patients had about 43% previous hospitalizations and 46% criminal records before committing murder. If however we examine separately the schizophrenic group (including paranoia) we arrive at 55% previous hospitalization and about 48% of criminal records. Among psychopaths 30% previous hospitalization and

previous criminal records of over 50% are on record. The number of previous psychiatric treatment would be higher if we would include all psychiatric facilities used before the murder.

The "paranoid group" as such—schizophrenia, paranoid type, paranoid condition, involuntal psychosis, paranoid type (in Europe still often called "Spaetschizophrenie"—late schizophrenia), psychosis due to alcohol, paranoid type, including psychosis due to arteriosclerosis, paranoid type—comprises about 40% (60 patients) of our cases. These homicides occurred as offspring of a delusional system and must therefore be grouped together.

Concerning our psychopathic patients (with asocial or amoral trends, with pathological emotionality or pathological sexuality) we have to emphasize that they were committed because they showed reactive features *after* their arrest for homicide. Reactive features are varying from a depressive reaction with or without suicidal attempts, Ganser syndrome, paranoid trends, sometimes shortlasting schizophrenic-like episodes, etc.

It is sometimes difficult to squeeze a patient's clinical picture into the strait jacket of our scientific classification. As Bleuler stated (7): "... at what stage of the anomaly anyone should be designated as a 'schizoid' psychopath, or as a schizophrenic mentally diseased, cannot at all be decided as yet." This should be paraphrased in the light of our present knowledge: "... as a 'schizoid' psychopath or as a pseudopsychopathic schizophrenic..." Unlike the psychopath, most psychotic patients show evidence of irrational thinking. Many are influenced by delusional ideas or by hallucinations that make their aberrant behavior more understandable, and, in an important sense, more rational. If a schizophrenic patient hears a voice that he genuinely believes to be God's voice telling him to kill or to commit some other grave offense, and if his delusional ideas furthermore afford him reason to do so, his proceeding to carry out such a regrettable act is not logically incomprehensible(8). This phenomenon of "rational, logical thinking without correction by an 'affective' element" is described by the French authors Minkowski and Rogue de

Fursac(9) under the name of "morbid rationalism."

Cleckley(8) corroborates our statement about differential diagnostic problems in certain psychopaths: "On the other hand, we see the psychopath repeatedly carry out acts as self-damaging, disastrous, and inappropriate as many that are considered characteristic of schizophrenia, without the delusional or hallucinatory prompting." Our schizophrenic patients do not hesitate to describe in gruesome details their often atrocious crimes without any emotion. The psychopath on the other hand often complains of amnesia for the crime or tries to rationalize it as self-defense or intoxication.

Morbid jealousy and delusions of infidelity were prominent in 30 (20%) of our cases. Our survey confirms some of the assertions of other investigators in England(10). A paper, "Murder as a Reaction to Paranoid Delusions in Involutional Psychosis and its Prevention," was published by this author stressing the malignant nature of delusions of infidelity in the involutional period(11).

The relatively high percentage of patients functioning at the moron level of intelligence as well as the relatively high percentage of borderline and dull normal intelligence level among our homicidal patients is similar to other statistical surveys of criminal offenders. The same applies to the relatively high percentage of unskilled workers among our patients.

CONCLUSION

A statistical evaluation of 150 homicidal patients was presented. The ratio of male : female patients was 4:1. One hundred and fifty-seven persons were killed by 150 patients. Of the victims 73 (47%) involved family members. Thirty-two male patients (27%) killed their wives, whereas 6 wives (19%) killed their husbands. Fifteen men (13%) killed their girlfriends; 7 female patients (22%) killed their boyfriends. Infanticide and murder of children amounted to 22 (14%) of the victims (40% of the female murderers killed their infants and/or children).

The cases may, *grosso modo*, be classified as follows(13) :

1. Those in which the homicide was the

direct offspring of delusions (paranoid group as described in this paper) : 40% ;

2. Those in which the homicide was committed during a paroxysm of insanity and/or was committed by manifestly insane persons, from motives and conditions which might influence the "sane mind" such as anger, revenge, jealousy, *etc.* : 32.6% ;

3. Those in which the insanity was said to have developed *after* the homicide which was committed for motives such as robbery (9), morbid jealousy, sex crimes, anger, "cuckolding-reaction," revenge, *etc.* (psychosis w/psychopathic personality) : 27.3%.

In most of the cases classified under Group 1 (40%) forebodings of the malignant nature of patients' mental illness were present over a long period ; the malignant nature of persistent delusions of infidelity in the involutional psychosis has been previously described(11). The remaining diagnostic groups (described under 2) usually unfold the symptoms of their mental illness over a long period. Prevention in Group 3 is often more a penal than a psychiatric problem.

Intemperate use of alcohol was a contributing factor in 34% of our cases, whereas severe intoxication at the time of the crime could be elicited from the records in 12.5% of the cases.

It is suggested that an interdisciplinary team consisting of specialists collaborating with each other in cultural, constitutional, psychological, neurological, genetic and dynamic studies run their data concerning homicidal patients through a computing machine and establish prediction tables for the various mental illnesses which would be used as a yardstick for prevention. I would like to conclude with A. Wikler's(12) definition and goals of psychiatric research :

that sort of activity which is directed to the accumulation of data that are useful for the purpose of prediction and control of observable phenomena. The phenomena with which the psychiatrist is concerned are largely those related to the interpersonal activities of human beings. He wishes to be able to predict such behavior and where necessary for the patient, society, or both, to alter it.

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WRITING PSYCHIATRIC REPORTS

EDWARD S. DEAN, M.D.¹

Just how helpful are reports made by psychiatrists? Do they cause any actual harm? How can they be made to accomplish their function more effectively? Any psychiatrist who prepares reports for lay readers sooner or later will ask himself such questions.

Not long ago, a patient was seen by a psychiatrist in the admitting office of a large general hospital, and the psychiatrist referred him to an alcoholic clinic. A few days later, a call was received from the State Department of Employment, requesting the psychiatric diagnosis. A new member of the clerical staff, not aware of established procedures in such cases, read the diagnosis over the telephone: "Ambulatory schizophrenia." After that, a call was received from the patient's employer who asked in a tone of alarm if the patient was dangerous and what steps should he take in regard to him.

Thus, professional jargon conveyed to psychiatrically unsophisticated persons the impression that the patient suffered from a serious mental illness and could be dangerous. But a nonprofessional observer of human nature might have described him simply as a man who drank too much and stopped off his mother.

Most psychiatrists would not knowingly allow any such misunderstandings to arise in their relations with the public. But psychiatrists, like the rest of humanity, are creatures of habit. They are a product of their training, which, in most cases, has proceeded along traditional lines. Typically, a psychiatrist begins in a hospital where he is required to write reports according to standard form. The hospital provides him with an outline with a list of headings, subheadings, and possibly an elaborate list of details that he is to search for in his history and examination. At the conclusion is a summary-formulation with diagnosis, prognosis, and recommendation. It is assumed, of course, that diagnosis determines prognosis and treatment. After all, that has been

the case throughout medicine, and who dares to imply that psychiatry can be different from medicine?

As a beginning psychiatrist, I was introduced to Cheney's *Outlines for Psychiatric Examinations*,² and I thought that when I followed Cheney I was doing right. It seems to me now that I was right only in having complied with an established authority. But as for doing good, that is, for the patient and those whose lives were involved with him, more likely I was doing wrong.

This kind of psychiatric reporting is still much in use, particularly in large, well-staffed hospitals. It is much in demand where administration is the overriding concern. Under these circumstances, classification of patients is emphasized and insisted upon. Unfortunately, hospitals, like other institutions, have lives of their own which they seek to maintain and reproduce, possibly at the expense of the purpose for which they were originally established. Thus, many rules of procedure are designed to protect the hospital, and the welfare of patients can be overlooked.

But in clinics where emphasis is on psychotherapy, adherence to form is much more relaxed. Still, even in such clinics some formalization of reports is required, and an insistence on diagnosis remains. But, I am told, how else can we keep statistics, and statistics are the cornerstone of research. Such is the objection you are likely to hear if you propose to drop diagnosis from psychiatric reports.

In their emphasis on diagnosis, psychiatrists tend to act as if psychiatric classifications existed in nature and were not made by man. But do not misunderstand me. I do not deny that general paresis is an organic condition produced by the *Treponema pallidum*. I am talking about the functional mental disorders which exist as classifications assigned by man for the purpose

² Cheney, Clarence O.: *Outlines for Psychiatric Examinations*, 2nd Ed. Utica, N. Y.: State Hospitals Press, 1938.

¹ 450 Sutter St., San Francisco, Calif.

of giving order to varieties of behavior.

In this connection, the words of Adolf Meyer³ have a pointed significance. In 1906, he said :

The superstition about the value of a diagnosis of a disease prompts many to believe that a diagnosis once made puts them into a position to solve the queries about the case not with the facts presented by it . . . but by a system of rules and deductions from the meaning of the newly defined disease entities . . .

What we act on should be facts. If the facts do not constitute a diagnosis we nevertheless must act on the facts. To jump from the facts at an arbitrary diagnosis and then to act on that abstract diagnosis is a procedure hardly ever needed in psychiatry, and bound to lead to self-deceit and confusion of the minds of all concerned.

Well schooled in their diagnostic classifications, psychiatrists discourse upon them fluently and glibly. As long as they talk only to one another, they can remain unaware of the harmful effects of their terminology. They construct a private universe in which only the adept—the psychiatrists and their colleagues in related fields—feel at home. They have learned to stomach their terms, I suspect, by taking them with several grains of salt.

But give a psychiatric report to an educated layman and this private wonderland of psychiatrists becomes a Pandora's box. Such reactions are well known, not only to psychiatrists, but to physicians in general. Otherwise, why should medical records be kept so zealously out of the hands of patients? When physicians say, "These records are confidential," they tend to forget that confidentiality is intended to protect patients, not physicians. The patient's confidences, of course, should be protected at any cost.

Suppose that you, as a psychiatrist, knew that the report you are preparing would be read by the patient you are describing. Very likely it would be written in quite different language from what you are accustomed to using. If anyone doubts this,

I suggest that he try the experiment for himself.

Of course, psychiatrists do not write reports primarily to be read by the subjects of their investigation. But if they wrote reports which *could* be read by them, then the reports would be more meaningful—and less misleading—to judges, lawyers, probation officers, social workers, teachers, school counsellors, deans, employers, and personnel officers. Further, these individuals would thereby be spared the burden of entering into a conspiracy to keep the contents of the report secret from the subject-person concerned. After all, judges and so on are not accustomed to keeping secrets from their clients.

Adhering to traditional forms and technical terminology out of routine and habit—and also from a desire to demonstrate professional competence—psychiatrists tend to forget that their words have consequences. They make diagnoses, such as ambulatory schizophrenia, where none is needed and none is asked. And then they are puzzled and irritated by the alarm they have caused. They feel that they have done what was right, but ignorant meddlers have spread confusion and alarm.

I suggest that psychiatrists need to change the form of their reports and the language they use. *Schizophrenic reaction, chronic undifferentiated type* may be a useful term, possibly, for the statistics of a state hospital, but it is of hardly any use in a world of men-in-action. No general practitioner of medicine could find much meaning in that term, let alone a personnel director or peace officer.

My suggestion is that a psychiatric report be conceived as a guide to action. It differs from all other reports which describe, evaluate, and recommend preferred decisions only in that it is based on the experience that is peculiar to those who are engaged in the psychiatric profession. But it should be completely free from professional jargon, and it should convey intelligence to the educated layman in ordinary language.

The psychiatric report should be a factual account. If psychiatrists indulge their well-known propensity for speculation, the

³ Lief, Alfred (Ed.): *The Commonsense Psychiatry of Dr. Adolf Meyer*. New York: McGraw-Hill, 1948. pp. 154, 168. Quoted by permission.

speculative nature of what they say should be clearly indicated. Speculation, or opinion, should be separated from what is thought to be fact. And the facts upon which speculation is based should be fully stated, so that any non-psychiatric person could draw the same inference. If any leap is required, then any such speculation should be omitted.

Further, if psychiatrists wrote reports in such a way that they would not object to their being read by the subject himself, then their reports would be free from jargon, contain a minimum of speculation, and be confined to established facts. One is not likely to use the term *paranoid* if a paranoid person is going to read the report. The information communicated will not be diminished if, instead of using the term *paranoid*, the fears and suspicions which make up this paranoid state are specified in detail. Further, no misinformation will be communicated, such as is connoted by *paranoid*. Nor will any patient be disturbed if he has learned that he is supposed to be paranoid and then goes to an encyclopedia and under *paranoia* reads what his prognosis is presumed to be. Happily, many paranoid states are transitory, and the fears and suspicions that constitute their substance wax and wane.

If, after an interview, a psychiatrist makes a note, seals it in an envelope, and gives it to the patient to take to another psychiatrist who reads it with a dead-pan expression and then says, "Now tell me about the problem that brings you here," the patient will have reason for feeling some strong emotion. Should such an exchange of information occur behind the patient's back and should the patient know that there is a case record which is always kept out of sight, then this constitutes nothing less than encouraging paranoia.

I have shown my reports to patients many times, and my relationship with them was usually strengthened as a result. In one such case I had written, "He suspects that his wife is being held prisoner in an apartment in the same building where he lives." Upon reading this, the patient told me that this idea was merely a thought, not a belief. I always welcome information that indicates a delusion is not fixed, but fluid.

Also, in case a psychiatrist suspects that he does not have adequate facts, he should try showing the draft of his report to the patient. He may learn much more, and besides, the patient may have the happy experience of discovering that his psychiatrist is a person he can trust.

It is because of such considerations that I do not recommend Cheney's *Outlines*. Such detailed outlines may be of help to a beginner in psychiatry, because he does not know what to look for. He needs practice to feel at home in the field. And he needs to learn what his job is and what he should expect of himself. And he needs to know what his forebears have done, in order to depart from their practices with full security.

But a detailed outline is less than useful for one accustomed to the field of psychiatry. It may be a definite hindrance, because it tends to make one fail to see the forest for the trees. The danger is that a mass of detailed information is collected, but nothing is done to make sense of it. And it is hard to make sense of disparate kinds of information that are put down without reference to a central theme. In reading such reports, one is impressed by a mass of irrelevant verbiage.

But a report does need to have form. It needs to have a beginning, a middle, and an end. Its beginning poses a problem, its middle elaborates—elucidates—that problem, and its end proposes a solution. The problem should be so defined that alternative treatments, or managements, of the problem are implicit in its definition, and then these are expressly stated in the conclusion. It is the problem at hand that determines the organization of the report, including its length, scope, and presentation of facts and inferences.

The end of the report should be a definite conclusion, and it should contain a prescription for action, possibly a definite action, or perhaps only a change in attitude. A report should build to its conclusion. It should contain all the information that leads to its conclusion. It should contain also all the information that contradicts its conclusion, and this contradicting information should be evaluated in relation to

the whole. Nothing should be left out that belongs in the report, and nothing need be put in that does not belong. Every part of the report should contribute to the whole. It should be organized into a narrative, factual account which culminates in an effect that is its conclusion.

So, my suggestion is that outlines and technical terminology are of limited usefulness in writing psychiatric reports. Their effects may be definitely harmful, both to the understanding of the reader and the psychiatrist who makes the report. Strict adherence to an outline can hinder the process of thought by which the psychi-

atrist comes to an understanding of the presenting problem. And adherence to an outline can prevent effective communication of the problem and its proposed solutions to the intended reader. Instead, organization of the report should be determined by the problem at hand. The well-organized report will culminate in a conclusion which is the psychiatrist's proposed solution-in-action. The writer of the report should bear in mind the needs and limitations of his reader. He can avoid the harmful effects of professional jargon by keeping to a description of facts and having in mind the subject-person as the ultimate reader.

THE CLOSED GROUP CONCEPT IN OPEN PSYCHIATRIC HOSPITALS¹

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The transition of a hospital with locked units to an open hospital presents many difficulties and anxieties. Most of these stem from the problems of assessing which patients are determined to leave the hospital, if given the opportunity, and to what extent they may be potentially dangerous, or become a burden to themselves or the community. In the initial stages, careful assessment and grouping of patients and the development of an organised hospital programme can reduce the problem until there are only a limited number of closed wards. Subsequently, one closed ward may be considered sufficient. Because of the difficulties presented by a few patients who will remain a hospital and community problem if no hospital units are locked, it is not uncommon for a ward containing a large number to remain locked.

In an attempt to deal with the problem in Gloucester, one of us (B.M.M.) established a special programme for a small group of patients in this category, called the "Closed Group"⁴(1). This meant that within the confines of an open ward, a small group of patients were managed in a special way, under constant skilled supervision by the nursing staff. The ingenuity of both nurses and doctors was taxed to devise activity programmes and means of communication which would overcome the special difficulties involved. These stemmed from the patients' lack of insight, and failure to cooperate or identify with the hospital. Subsequently, we have both been associated in a similar programme at Oxford.

Procedure with Absconders. The Closed Group was used for patients who repeatedly showed an unwillingness to cooperate in the hospital regime. In the first instance, each patient who absconded from the hospital was interviewed by one of the authors, together with the medical and nursing staff concerned, in an attempt to understand his reasons for going. These reasons included social factors, commendable initiative in long-stay patients, response to hallucinatory voices and an adamant wish by some patients not to stay in hospital.

We then tried to piece together where the patient went, and what he wanted to do. Where the situation could not be modified to meet the patient's needs, it was explained to him that the hospital was run on the basis of mutual trust and that unless we could trust him, a different policy might have to be adopted. It was emphasised that escaping from the hospital was easy and that the real challenge was whether he could prove he was worth trusting. Unless the patient was considered dangerous or in need of special treatment, he was given another chance. On the next occasion of absconding, he was placed on the Closed Group.

In Gloucester, it was found necessary to have two Closed Groups—for men and women respectively. At Oxford, experience with the grouping and classification of patients led to the formation of a Closed Group for men, but this special need for women has not arisen. An extensive outpatient and domiciliary service enables psychiatrists to screen and classify new patients needing admission. These new referrals are admitted to several appropriate wards, used for admissions. As a result, many recent admissions with behavioural difficulties, both men and women, have been managed in open units dealing with disturbed patients who require intensive nursing supervision for short periods. Some male patients who could not be managed in that setting

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⁴ This is an entirely different sense from that used in group therapy, where it refers to constant composition of the group.

have been transferred to the Closed Group.

Patients and Treatments. To obtain a more accurate picture of the patients in the Closed Group, we carried out an analysis at Littlemore Hospital, Oxford, of all patients who had belonged to it in the 12-month period October 1959 to September 1960. The number of individual patients who had been on it at any time was 61, and the breakdown by diagnosis is given in Table 1.

TABLE 1

PATIENTS OF THE CLOSED GROUP BY DIAGNOSIS	
Schizophrenia	38
Manic-depressive psychosis	10
Psychopathic personality	3
Subnormality	3
Subnormality with schizophrenia	2
Psychoneurosis	2
Alcoholism	2
Senile dementia	1

During this period 641 patients were admitted to hospital, and of the 250 men, 31 were admitted directly to the group. The other 30 members of the Closed Group were transfers from other wards where they could not be managed satisfactorily.

Examination of the disposal of these patients (Table 2) shows that 29 became

TABLE 2

DISPOSAL OF PATIENTS ADMITTED TO THE CLOSED GROUP (OCT. 1959-SEPT. 1960)	
Transferred to other wards	29
Discharged from the hospital	16
Remaining on the ward (not under Closed Group supervision)	13
Uninterruptedly in the Closed Group	3

suitable to be transferred to other wards, 16 were discharged from the hospital, 13 remained on the same ward but were not under Closed Group supervision, and 3 had remained uninterruptedly in the Closed Group. Of the transferred patients, 3 were subsequently readmitted to the Closed Group. The average length of stay for each entry to the group (rather than for each individual patient) was 24 days.

These figures show how relatively small is the hard core problem of patients requiring

continuous intensive supervision. The decision to release a patient from Closed Group supervision was taken after consultation between the medical and nursing staff.

Some acutely disturbed patients are not able initially to take part in the group activities although technically under Closed Group supervision. These patients would tend to upset the equilibrium of the Group, and to take up an undue amount of the nurses' attention. They are nursed separately in the ward (which is empty during most work periods), and might have to spend up to 24 hours in bed, or be allowed only a dressing gown and pyjamas. This individual management, however, rarely lasts more than a few days, and patients are then usually able to participate in the full group programme.

Disturbed psychotic patients are treated routinely with intensive phenothiazine medication. This is usually chlorpromazine in the first instance, although trifluoperazine, perphenazine and thioridazine have also been used in some cases. Some authors(2) emphasize the value of ECT in the initial treatment period for disturbed psychotics, but we have not found this necessary. The tranquillisers have proved most efficacious in controlling aggressive and disturbed behaviour, but they have not influenced the wandering propensity of a number of patients who continue to require Closed Group supervision over a long period. Injection treatment is usually reserved for patients who are unwilling, or cannot be relied on to take oral medication (which in general we have found quite rapid enough, even with acute illnesses).

Although the entire ward (consisting predominantly of chronic, deteriorated patients) is managed on group lines, with an intensive programme of activities, there has been no attempt at formal psychotherapy—group or individual. Analytically orientated therapy has not been thought appropriate to the problems managed in this unit. However, there are weekly meetings between the doctor and nursing staff at which any difficulties are discussed.

Regime. The patients composing the Group present a variety of problems, and its character is therefore a heterogeneous one. Management is very much easier if it is

possible to create some common bonds amongst the patients, and this may be achieved through occupational and recreational activities which are generally acceptable. If they can also be of a team-like character, to make the patients to some extent dependent on each other, this will encourage positive interactions among the Group members, and reduce the demands made on the staff.

The best working response occurs with tasks which are creative, and which allow a sense of personal involvement—particularly when a project can be carried through from start to finish. The work this Closed Group has done includes laying out a garden, painting and renovating a veranda, clearing the site for a new social centre, and demolishing a derelict building in the hospital grounds. The Group is now in great demand within the hospital for working projects of this sort.

It is better if participation in this work is confined to the Group; in this way, as patients become interested in the job, they will tend to regard the Closed Group as a working team, rather than as a number of specially supervised patients. As a result, some patients actually become so attached to the Group that they are reluctant to leave it, even when well enough to do so. Some of these "ex-members" have been allowed to remain attached to the Group during working periods, although no longer under close supervision. Being well known to the current Group members, they are not regarded as outsiders.

The Group also takes part in a variety of recreations including football, cricket, badminton, darts, billiards, table tennis and tombola. In addition, they are included in entertainments for the whole ward, or for several wards, though remaining under the supervision of their nursing staff. In this way, the invisible barriers of the Group are diminished, as they are by visits outside the hospital. With adequate staff supervision, there is no difficulty about most members of the Group going on shopping expeditions, to the swimming baths, or to places of interest. These measures are all valuable in reducing tension which might otherwise build up within the Group situation. In fact, the combination of fostering a wide field of

social relationships around the Group, together with work projects which promote integration, has proved generally beneficial.

An amusing sideline to this discussion comes from an article, "Life in a Closed Group," which appeared recently in the patients' magazine. It was written by a chronic schizophrenic patient, an inveterate absconder, and a permanent member of the Group. He writes: "I think 'Closed Group' is a misnomer, because we are not really confined, but free to go anywhere inside or outside the hospital with the nurse who looks after us. . . . We all work as a happy family in the open air, gardening and painting. I like work; it helps us to keep fit." It should be added that this tribute to the regime was entirely unsolicited!

Nursing the Group. Of course, supervision of the Closed Group represents one of the most onerous duties of the nursing staff in the ward, and indeed in the whole hospital. In spite of treatment, many Closed Group patients are likely to be difficult and resentful, at least for a time. Without keys, or any other kind of physical restraint, it is the function of the nurse to draw such patients into the Group, so that they may benefit from it.

This is done by persuasion, by exercising patience, and by promoting a constructive and interesting programme in which group members may use their own initiative as far as possible. If nurses have an appreciation of the patients' personal interests they can help to form a nucleus around which the group is constructed. This relationship we presume to be a therapeutic force of its own, and there is no doubt that the success of Closed Group management rests fundamentally on the quality of its nursing staff.

The ward normally contains about 38 patients, of whom not more than 8 would be under Closed Group supervision. For these patients, there are 4 or 5 male nurses⁵ on each shift (of whom not more than 2 would be fully trained) and 2 of these are normally allocated to the Closed Group. At certain times only one nurse would be

⁵ The term nurse is used to include both trained nurses and assistants (aides).

available for this purpose, but if the group numbers more than 5 it is very difficult for a single person to exercise adequate supervision.

One of the charge nurses (A.R.H.) of this particular unit writes(3),

When patients are nursed in a Closed Group in an otherwise open ward, they are more readily able to discover the temporary nature of their confinement than would be the case in a locked ward, since they are actually able to observe the progress of patients whose mental condition has improved and who have left the Closed Group to take their place in the comparative freedom of the open ward. Since the nursing staff are not able to rely on keys in order to ensure the safety of their patients, they must institute a stimulating ward programme to maintain the interests of their patients. This naturally results in close interpersonal relationships between the nursing staff and patients and a consequent speedier response to treatment.

Absconsions. In the period under survey, there have been 9 incidents when patients absconded from the unit, of which 4 occurred in the first month of the experiment. One patient succeeded in absconding twice, and is still on the Closed Group. These patients were returned to the hospital on the same day, because of the efficiency of the supervision, except for one who remained out of hospital for 4 days. Of the 8 patients who absconded, 2 are still in hospital, while the remainder have improved and been discharged.

CONCLUSIONS

The new Mental Health Act (1959) in Great Britain has captured the spirit of progress which has been taking place in British mental hospitals over the past 10 years, and it facilitates admission to psychiatric hospitals without formality. It has also taken more account than previous legislation of human dignity and freedom—so much emphasised in the development of therapeutic communities and open door hospitals. These measures have done much to reduce the dependence of the long-stay patient and the custodial atmosphere that prevailed in many mental hospitals.

The "Closed Group" has proved invaluable in facilitating a rapid transition to the open door hospital philosophy. One should not, however, minimise the energy and enthusiasm required in the development of a high community morale in the hospital. Nor does it reduce the need for a full activity programme, careful grouping and assessment of patients, improvement of community relationships and provision of facilities within the community (outpatient, day hospital and domiciliary) which permit adequate screening and classification of patients by psychiatrists prior to admission.

Littlemore Hospital serves a population of 350,000 people covering an area of approximately 900 square miles (Oxford City, Oxford County, parts of Berkshire and Gloucestershire). It accepts all types of psychiatric admissions and is responsible for the final provision of inpatient accommodation for any resident in this area requiring treatment, even if he comes before the Courts.

During the recent development of this hospital, it has been possible to change the status of patients so that the vast majority are now informal (*i.e.*, under no legal restriction). When the experiment began two years ago, there were 902 patients at Littlemore; 445 voluntary, 10 short term observation and treatment and 447 compulsorily detained. Through the improved functioning of the hospital and its community services, many patients have been discharged back into the community. The present hospital population (September 1961) is 707 patients; 690 (97.6%) are informal; 12 are on short term (3-28 days) orders for observation and treatment, and 5 are compulsorily detained (4 of them by order of the Courts following a criminal offence). No wards are locked at present, and we believe that the use of the Closed Group has played an important part in this development.

SUMMARY

1. The concept of the Closed Group in the development of an open psychiatric hospital in Oxford is elaborated and its composition, management and regime are described.

2. In this hospital (a traditional mental hospital responsible for all types of psychiatric admissions), 97.6% of the patients are informal and less than 1% compulsorily detained; this includes cases referred from the Courts. No wards are locked.

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THE PROBLEM OF PROGNOSIS IN PSYCHONEUROTIC ILLNESS

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The prognoses of most psychoneurotic illnesses are not known. The future life course of a young adult with an anxiety state, phobia or conversion reaction remains speculative. There are no studies which make clear what his psychiatric status will probably be 10 or 20 years afterwards.

The prognoses of psychotic illnesses are better understood. Psychotic patients are usually hospitalized and follow-up contacts are often maintained for a while after discharge. Recurrence of the illness usually results in rehospitalization, allowing at least a crude appraisal of the long term course. Such illnesses are often treated in large public hospitals where statistics are kept on the outcome of the patients. The patient who relapses often returns to the same hospital. A statistical appraisal of the course and outcome of psychotic illness is in time possible. Such studies as the excellent ones from the New York state hospital system (1) give reasonable estimates of the courses and prognoses of psychotic illnesses.

The case is different with psychoneurotic cases. Patients with psychoneurotic problems less frequently receive attention from public hospitals. They are usually not incapacitated by their illnesses, and seek help on an outpatient basis. The capacity of outpatient clinics to appraise their long term course and outcome is much less than in the case of hospitalized psychotic patients. The psychoneurotic patient often does not return to a former treatment source if his problems return or undergo an exacerbation. If he does not feel he is making good progress in treatment, he may go to another therapist or clinic, or he may seek help from lay counselling services. It is difficult and expensive to trace psychoneurotic patients for 5-, 10- or 20-year follow-ups, and sometimes they are resistant to extensive re-evaluation when they are approached.

The records of large university and public psychiatric outpatient clinics are difficult to evaluate. Such clinics usually have fre-

quent turnover in personnel as new groups of resident physicians and young instructors come and go. It is difficult to piece together the reports of many observers into a coherent long range picture, and often there are not enough details in the clinical record to enable evaluation of the patient from this source.

The prognoses of psychoneurotic illnesses remain a matter of individual opinion and speculation. Each psychiatrist has his own impressions based on his own experience. His impressions are limited and distorted by the type of practice he does and the theoretical approach he uses. Despite much psychiatric research, no studies have yet appeared to lift this crucial problem out of the realm of individual speculation and opinion.

The evaluation of treatment results of the psychoneuroses is impossible until the prognosis of psychoneuroses is known. It is of little use to know what percentage of patients improve in treatment unless we know what percentage would have gotten better or worse without it. It does not clarify the matter to know what percentage of patients are still doing well 3 or 5 years after completing treatment unless we have some idea what percentage of patients would be doing well 3 or 5 years later even if they had had no treatment.

The absence of accurate information about the prognoses of psychoneuroses has made the evaluation of psychotherapy difficult and treacherous. The results of psychotherapy must remain a matter of the speculations and opinions of individual therapists, since none of these therapists can be sure how their patients would have done without their treatment.

The unknown prognoses of psychoneuroses lead to the confused claims and counterclaims of the various schools of psychotherapy about their respective validity and effectiveness. The impartial observer in the end often concludes that the results of all schools of psychotherapy, when conscientiously applied, are about the same (2).

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Though almost all psychotherapists feel sure they help many of their patients, none can be scientifically sure of it, and none has a clear scientific basis for feeling his approach is better than that of other therapists of different theoretical orientations and procedures (3).

Some therapists solve this painful dilemma by the comforting but unsound assumption that if the patient improves *during* the treatment he improves *because of* the treatment. Alluring as this assumption may be, it is not sound. It is clear that many patients improve with passage of time without treatment, and the patient who is being treated might well have been one who would have improved if he had not been treated. Nevertheless, the assumption that improvement during treatment is always produced by the treatment is widespread among psychotherapists of all orientations.

This same erroneous assumption has often been present during the historical evolution of psychotherapy. For example, though he never specifically stated so, it is clear that Freud assumed that improvement of a patient during treatment was the result of the treatment. Freud never considered, at least in his writings, whether the improvement was possibly unrelated to his treatment and merely a function of time or the natural course of the disease. Freud also assumed that improvement of the patient confirmed the validity of his theoretical conclusions about the cause of the illness.

Some therapists attempt to substantiate their psychological theories by citing the recoveries of patients to whom their techniques were applied. They reason that recovery proves that the theories were sound. Until the prognoses of psychoneuroses are clearly known, such inferences are untenable. They may comfort the therapist, but they contribute little to our understanding of emotional illness and how to treat it.

The validity of a theoretical system in psychiatry cannot be based entirely on whether it achieves a certain amount of therapeutic success. Many patients are relieved of psychogenic symptoms by the application of a wide variety of exhortative and inspirational procedures, but this does not indisputably prove the existence of basic truth in any of these methods. Wheth-

er or not patients improve under treatment with a particular theoretical orientation can be considered as part of the data in evaluating the validity of the theory, but it does not settle the matter. This is particularly so when the prognosis of the illness is unpredictable.

The problem of the prognoses of psychoneuroses is further complicated by the fact that psychoneuroses vary so much in intensity. The range from mild to severe is much greater than in any other type of medical problem. The precise point at which normal tensions are separated from abnormal anxieties is often a matter of individual opinion. It is probable, but not certain, that prognosis varies with the intensity of the symptoms. Even this cannot be stated for certain, however. For example, an untreated severe obsessive illness may in time disappear entirely, whereas a minor obsession may be present for decades. The reverse may be true in other patients.

It is currently fashionable to advocate widespread, expensive plans for the treatment of large numbers of psychoneurotic patients. Though such plans may be motivated by well-meant humanitarian feelings, it is difficult to justify them on the basis of available statistical results of such treatment. The crux of the matter is the problem of the unknown prognoses of these illnesses. Yet this question is rarely raised when such plans are considered, even by those who oppose these plans.

The solution of the problem of prognosis in psychoneurotic illness lies in careful, well-financed, long term research. The government and private foundations spend much money on psychiatric research, and some of it should be put into research on the prognosis and course of psychoneurotic illness.

Such research should be conducted by investigators who are willing to devote themselves to it for many years. One of the problems in such research is that the personnel undergoes continual change over the years. Young investigators leave the study to accept offers of academic advancement in other cities or they enter private practice after a few years. Their replacements have many typed reports on the patients, but no direct clinical knowl-

edge of them. Over a period of 10 years the entire personnel of a long range research project may change several times.

The solution lies in carefully selecting a hard core of well-financed investigators who will stick with the project over a significant period. Such a team of investigators could eventually begin to clarify some of the problems in the prognosis of psychoneurotic illness. Such investigations would be expensive, but when one considers how much current psychiatric research is rendered of little value by the absence of such data the expense becomes justifiable and necessary.

Until such data are available on the prognoses of psychoneuroses, the individual psychotherapist must, if he is intellectually honest with himself, face a painful dilemma. It is his duty and role to go on treating his

patients in the best manner he knows. However, if he bluntly faces the unknown prognoses of the illnesses he is treating he must realize that he is proceeding on the basis of his own opinions and upon those of his teachers and the authorities whose system he follows. Such a realization may lead to greater humility and flexibility in the therapist and to a greater tolerance toward other therapists whose convictions he does not share. It is quite possible, however, that more humility, flexibility and tolerance for various opinions would be a good thing for psychiatry in its present stage of development.

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EFFECT OF SOLITARY CONFINEMENT ON PRISONERS¹

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The reports of Ribble(5) and Spitz(8) on the consequences of maternal deprivation in infancy have, during the past fifteen years, stimulated a great deal of interest in the effects of restricted social contact. Until recently, however, there have been relatively few experimental studies with human subjects in which degree of social contact has been experimentally manipulated. Moreover, studies of prolonged isolation have, for the most part, been inspired by interest in the role of exteroceptive stimulation; consequently, the experimental subjects have been both perceptually and socially isolated.

In two studies of perceptual isolation, isolated subjects have shown increased susceptibility to social influence. In one of these(6), isolated subjects were found to be more influenced by persuasive communications than were nonisolated subjects; in the other(3), isolation appeared to increase suggestibility in a body-sway test.

Other investigators(1, 2, 10, 11), using children as subjects, have provided evidence that both brief social isolation and restricted social contact may increase the effectiveness of social reinforcers. These findings suggest that the increased suggestibility of the perceptually isolated adult subjects may have been due to the restricted social contact which was a concomitant of the perceptual isolation. The study reported in this paper was aimed primarily at investigating the effects of prolonged social isolation on susceptibility to social influence. Some restric-

tions were necessarily imposed on the perceptual experiences of the subjects, but there was no direct interference with sensory input during the isolation period.

METHOD

Forty long-term prisoners at a federal penitentiary volunteered for a study of solitary confinement. Twenty of the volunteers were placed in isolation cells for 4 days; the remainder served as controls. All but 1 of the experimental subjects remained in isolation for a full 96-hour period.

The isolation cells were approximately 12 ft. by 6 ft. and contained only a wooden-board bed with mattress, a toilet, and a hand-basin. During the day the cell was illuminated by a single electric light adequate for reading and by light from a 3 ft. by 4 ft. window high up on the wall of the cell. A dim light remained on during the night. While in isolation prisoners had no social contacts except those necessary for exchange of food and dirty crockery. They were allowed to smoke and were given regular diet, but reading matter and mail were not permitted. Prisoners were told only that they would be tested before and after isolation. No indication was given that their behavior might undergo change or that their thoughts and feelings might be influenced by the experience.

Experimental subjects were tested immediately before and immediately after isolation. Control subjects were tested on 2 occasions, 4 days apart; during the intervening period, they carried out their normal prison routines.

Subjects were given 3 tests of susceptibility to social influence:

1. *Body sway test.* The subject stood with his feet together and eyes closed. The repeated suggestion, "You are falling, falling forward," which was recorded on tape, was played to the subject for approximately 2 minutes. The same procedure was used in both the pre-test and post-test periods.

2. *Autokinetic test.* The subject was

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shown a stationary pinpoint of light on a dark background and was told that it would move. He was asked to judge, on 10 trials, how far the light had moved. A further 10 trials were given during the post-test period after the subject had been informed that his previous estimates had been too small. An attempt was then made to condition him to give judgments of a specific size.

3. *Conditioning of meaning.* A technique devised by Staats and Staats(9) was utilized in an attempt to change the subject's evaluation of concepts. During the pre-test period the subject rated 4 concepts on 7 bipolar scales defined by the adjectives "pleasant" and "unpleasant." During the post-test period one of the concepts was repeatedly paired with words having high positive loadings on Osgood's evaluative force(4), the other with words having high negative loadings on this factor. The subject was then asked to re-rate the concepts.

The prisoners' reactions to the experimental procedures were assessed by the several paper-and-pencil tests: 1. Subjects were asked, during the pre-test and post-test periods, to indicate, by means of self-ratings, how anxious they felt about participating in the study. 2. During the post-test period, subjects rated 5 concepts—punishment, solitary, prison, authority, and society—on 5 scales defined by bipolar pairs of adjectives with high loadings on Osgood's evaluative factor. 3. The Maudsley Personality Inventory was used in both pre-test and post-test sessions to obtain scores for neuroticism and introversion. 4. A brief aggression scale, devised by Zaks and Walters(13), was used during both sessions to assess the subject's level of aggression.

Since a number of investigators have reported perceptual-motor and cognitive impairment in subjects who have experienced sensory deprivation, the prisoners were given a manual dexterity test and the Shipley-Hartford Abstraction Test. During the post-test period, all subjects were also given a brief test of verbal productivity, in which they were asked to give their comments on recently proposed prison reforms. The comments were recorded on tape and transcribed.

RESULTS

More isolated than nonisolated prisoners reported an increase in anxiety from the pre-test to post-test period ($p=.038$; Fisher's Exact Probability Test)(7). In contrast, following isolation the experimental subjects rated the concepts "solitary" more positively, and "society" more negatively, than did prisoners who had remained in regular prison routines ($p<.05$ in each case; Mann-Whitney Test)(7). The isolation subjects were also somewhat less verbally productive ($p<.10$; Mann-Whitney Test)(7). A similar decrease in verbal productivity following isolation has been found for adolescents(12). There were no differences on any of the remaining tests.

DISCUSSION

This study suggests that while social isolation may produce some change in subjective feelings, it does not result in mental or psychomotor deterioration or in increased susceptibility to social influence.

The largely negative findings may, of course, be due in part to the personality characteristics and the past experiences of the subjects of this study. In the first place, the subjects were volunteers who were apparently not too frightened by the prospect of 4 days of isolation. Consequently, it is possible that their affiliative or dependency responses were, in some respects, only weakly developed.

Secondly, prisoners who live in cell-blocks or dormitories suffer from lack of privacy; thus, a 4-day period of isolation may have had pleasant, as well as unpleasant, aspects. This latter consideration may, in fact, explain the rather perplexing finding that, while reporting relatively high anxiety, the isolated prisoners gave a more positive evaluation of the concept "solitary" than did the nonisolated controls.

The study, nevertheless, suggests that the deleterious consequences of social isolation have been too greatly emphasized. Prisoners may not be representative of the general population; however, the same can be said of the college students and regular servicemen who have served as subjects in other studies.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

CHLORDIAZEPOXIDE : AN EFFECTIVE ADJUNCT TO PSYCHOTHERAPY OF THE NEUROTIC STATES

S. GEORGE BROWN, M.D.¹

One component common to all the neuroses is anxiety, whether overtly expressed as the so-called "free-floating" form, or classified as an anxiety reaction. Displaced by, or converted or channeled into the defensive mechanisms of the obsessions, compulsions, conversion states and phobias, it assumes disguises which serve to lessen its directly perceived form(1).

None the less, anxiety or the underlying threat of it presents a major problem in many patients during therapy. Its presence (covert or apparent) can be damagingly obstructive to progress in both analysis and the supportive psychotherapies. To aid in alleviating anxiety, hence removing this major block, the tranquilizing drugs from the outset appeared to hold great promise. Unfortunately, my considerable experience with a variety of the psychosedatives had proven disappointing: some fell short of their purported objectives; others caused systemic toxicity, while the few which did relieve anxiety and tension also produced drowsiness or over-relaxation—sufficient to make the patient lethargic, hence as unresponsive to therapy as when tense with anxiety without the drug.

Consequently, when chlordiazepoxide,² the first of a unique class of compounds (the benzodiazepines) was reported to exert a specific anti-anxiety action without oversedation(2-6), my interest was aroused. Under treatment at this time were a number of patients whose responses to previously tried tranquilizers had been negligible; whose progress in psychotherapy was slow, difficult and unsatisfactory. Thus, this ap-

peared an opportune time to observe the drug's effects in this problem group.

Chlordiazepoxide, in conjunction with analysis or supportive therapy, was administered orally to 57 patients (41 male, 16 female) ranging in ages from 12 to 66 years—72% were under age 40.

Diagnoses included anxiety with hysteria in 17 patients, phobic and depressive reactions in 10 each, and obsessive-compulsive states in 5; mixed anxiety states accounted for the remainder of the emotional disorders being treated.

Dosages ranged from 15 to 80 mg. daily, but individual adjustments made weekly in accord with need and therapeutic response brought the average dose to approximately 10 mg. t.i.d.

Criteria for the evaluation of drug response were three: symptomatic relief, the degree and quality of the patient's readjustments and readaptations to his situational stresses (as disclosed through therapy and observed by family and associates), and the extent and depth of progress apparent in daily analysis or in weekly psychotherapy sessions.

RESULTS

Of the 57 patients, 28 achieved complete remission of symptoms and made highly satisfactory readjustments; another 26 (still continuing with combined therapy) are making excellent progress in psychotherapy, with prognoses of early recovery. The 3 remaining patients, while showing benefit, are still far from their goals of emotional stability and good functional readjustment.

The drug was well tolerated and enthusiastically accepted by the group; few failed to comment upon the "lift" and "ease of mind" not previously experienced with

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² Librium® was provided by Hoffmann-La Roche Inc., Nutley, N. J.

other tranquilizing agents. No side effects were noted.

DISCUSSION

From the outset (prior to chlordiazepoxide therapy) these patients had offered considerable, though unconscious, resistance to therapy—from self-imposed mental blocks to such evasions as stem from a reluctance to relinquish their defenses; part of the obstructing force appeared to be anxiety, or the threat of it. For example, a number of patients would become charged with *extreme* anxiety when sensitive areas of experiential recall were being examined; others found self-scrutiny too painful, and visible anxiety would block further analysis.

Communication was often troublesome; verbalization was halting and conscious concern over it would prove disruptive to further exploration, whereas still others had difficulty in grasping the significance of revealed material, thus rendering insight into their conflicts slow and tedious.

CONCLUSION

Psychotherapy was facilitated in two significant regards: 1) through the alleviation of anxiety, and relaxation without over-

sedation, chlordiazepoxide markedly augmented patient-therapist communication, thereby promoting better insight, making constructive therapy possible; 2) through its psychological protection against the threat of anxiety, the patient was fortified against stress-provoking situations encountered between office visits.

In none of this group would it have been possible for chlordiazepoxide or psychotherapy alone to effect as promptly the degree of benefit that their combination achieved. As an adjunct to psychotherapy this agent fulfills a long-recognized need.

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A COMPARISON OF TWO PHENOTHIAZINES IN THE TREATMENT OF SCHIZOPHRENICS

M. DIERKS, M.D.¹

Following the introduction of the phenothiazines, and for some time thereafter, it was suggested that their tranquilizing activity was directly related to their capacity to cause extrapyramidal stimulation. This hypothesis was attended by a paradox, the widespread use of anti-parkinsonian drugs to control the extrapyramidal symptoms induced by these very drugs. However, this theory became untenable with increasing evidence² that one phenothiazine, thioridazine (Mellaril), exhibits potent antipsychotic effects with little or no extrapyramidal

stimulation. An opportunity to explore this relationship presented itself at Danvers State Hospital by determining the effect of thioridazine in a series of patients previously treated with trifluoperazine (Stelazine), a phenothiazine whose tranquilizing activity is accompanied by extrapyramidal symptoms.

This series consisted of 109 female patients ranging in age from 23 to 60 years and domiciled in 5 parole and 2 closed wards. Duration of hospitalization ranged from 12 to 18 months, with schizophrenic reactions, involutional psychoses and manic-depressive reactions, manic type, predominating as the diagnoses. Optimum clinical effect had been established in 26 patients

¹ Danvers, Mass.

² Cole, J. O., *et al.*: *Drug Therapy. In Progress in Neurology and Psychiatry*. New York: Grune & Stratton, 1960.

with trifluoperazine alone. However, in 83 patients benztropine (Cogentin) had to be added to control the parkinsonian phenomena induced by trifluoperazine, *viz.*, restlessness, stiffness, shuffling gait, mask-like facies and cogwheel phenomena. The dose of benztropine varied from 0.5 to 8 mg. daily.

These drugs were discontinued and replaced by thioridazine as follows: 1) 25 mg. thioridazine was given t.i.d. for 3 days, followed by increased increments until the dose providing optimum effect was established; 2) an arbitrarily selected equivalent dose of thioridazine was immediately substituted for trifluoperazine, the ratios initially being 20:1 and adjusted thereafter according to response and toleration. No benztropine was permitted in order to determine precisely the parkinsonism potential for thioridazine.

RESULTS

Method 1 provided a smoother transition than did method 2 which elicited fatigue and lethargy in several cases and postural hypotension in 3 patients. These subsided within one to two weeks with dosage adjustment. In 104 of these patients (25 had received trifluoperazine alone and 79 had received trifluoperazine plus benztropine), the effect obtained with thioridazine alone over periods ranging from 45 days to 9 months was rated equal to that obtained before, permitting the patients in parole wards to continue with helpful chores in kitchen, cafeteria and laundry and able to leave the hospital for periods ranging from 3 to 14 days. Range of daily dosage was 4 to 40 mg. for trifluoperazine and 50 to 800 mg. for thioridazine, with 10 mg. for trifluo-

perazine and 200 mg. for thioridazine predominating as equivalent daily doses. Blurred vision due to the anticholinergic effect of benztropine disappeared in 3 patients when they were switched to thioridazine.

One patient responded inadequately to both drugs. Reduction of dosage in 3 patients exhibiting lethargy to thioridazine was followed by hallucinations and led to their return to trifluoperazine with benztropine.

During the time the 109 patients received thioridazine, only one exhibited any signs of parkinsonism. This was a 64-year-old paranoid schizophrenic who had been refractory to a number of drugs but responded dramatically to 200 mg. thioridazine daily. This evoked rigidity which responded to benztropine.

SUMMARY AND CONCLUSIONS

Consecutive evaluations of trifluoperazine and thioridazine were performed in 109 hospitalized schizophrenics. The same degree of tranquilizing effect was obtained with both drugs in 104 patients. Extrapyramidal symptoms were induced by thioridazine in 1 patient and by trifluoperazine in 79 patients and were controlled by the addition of benztropine.

This study has demonstrated that thioridazine is an affective agent relatively free of extrapyramidal symptoms and that the latter are not required for a drug to be an efficient tranquilizer. In addition, treatment with thioridazine alone required fewer tablets per day and resulted in greater economy as well as increased assurance of drug intake and patient cooperation.

A NEW PIPERIDINE PHENOTHIAZINE (PEPERACETAZINE)¹ IN CHRONIC PSYCHOTIC PATIENTS

K. H. TUTUNJIAN, M.D., AND J. A. GUIDO, M.D.²

This report represents a 4-month clinical

¹ Peperacetazine (Quide) supplied by Pitman-Moore Co.

² Respectively, Staff Psychiatrist, Asst. Superintendent, Metropolitan State Hospital, Norwalk, Calif.

investigation of the psychotropic potentialities of a new phenothiazine in facilitating the rehabilitation of chronic back ward patients. Milligram potency ratio with chlorpromazine, 20:1.

METHOD

A sample of 20 psychotic female patients, 20-64 years of age, was randomly selected from a "maximum security ward." Periods of hospitalization ranged from 5-17 years. They had received the gamut of chemotherapy, paramedical therapies and innumerable ECTs; 2 patients were lobotomized. In 70% of the group, the conspicuous target-symptom-complex consisted of gross delusional ideas with combative acting out behavior. The patients were used as their own controls so that improvement could be compared or contrasted with their background of historical and clinical information. Diagnoses: 17 schizophrenic reactions, (9 chronic undifferentiated, 3 hebephrenic, 2 catatonic, 2 schizo-affective, 1 paranoid), 3 chronic brain syndrome, convulsive disorder with psychosis.

All were combative to a varying degree and manifested a few or more of the following: grossly delusional ideas of a persecutory nature; overt sexual seductiveness toward the doctors, nurses or other patients; denudativeness; overt auditory and/or visual hallucinations; unpredictable episodes of excitement with destructive behavior (destroying furniture, seclusion doors), "intentional" incontinence.

Control of situational variables was attempted by avoiding any change in the psychiatric and nursing staff, ward milieu, doctors' and nursing rounds. Each patient received a complete physical and neurological examination, routine hemogram, urinalysis, chest x-ray, and liver function tests. The clinical status was evaluated weekly and combined, for more detailed compilation, with nurses' notes, family observations, and ancillary therapists' reports.

The initial dose was 10 mgm. t.i.d. in the elixir group of 50% of the patients, and 25

mgm. b.i.d. of the oral tablet to the remaining 50%. The dose was increased up to a maximum of 125 mgm. daily in 75% of the patients. Reduction of dosage was not necessary below 40 mgm. daily. Maintenance dose of 75 mgm. was determined on a clinical basis as well as individual tolerance without undesirable side effects. Smaller dosages seemed to be more easily tolerated by patients 45-64 years of age, and/or with a chronic brain syndrome.

RESULTS

After 3-4 days, 50% manifested improvement by qualitative and quantitative abatement of the above-described symptomatology. The most conspicuous result was the marked remission of hyperactive, combative behavior. Fifty percent responded dramatically in this manner, 15% moderately, 35% not at all. Improvement was also evaluated on the basis of the patient's adjustment in the paramedical therapies, number of home visits, and restoration of the eating and sleep cycle. Relatives began attending the family therapy sessions more frequently. For the first time, in some instances, we had an opportunity to evaluate the family situation. One patient with a "high record" of shattering seclusion doors and breaking furniture has remained out of the hospital for prolonged periods with a sustained remission to this date.

Duration of treatment was 4 months. Follow-up evaluations cover a 6-month period. The optimal or maintenance dose of 75 mgm. was sustained in 90% of the patients. Undesirable side reactions were rare and consisted of status epilepticus and autonomic effects (nausea, emesis and bradycardia) which disappeared with reduction of dosage in 2 patients. It was not necessary to use antiparkinson medication.

BENZQUINAMIDE : A PRELIMINARY REPORT

ANTHONY SAINZ, M.D.¹

Benzquinamide, dimethyl-12-ketoamino-methyl-13-acetylquinoline, is a quinoline derivative that has the unique property,

possibly solely among its congeners, of not releasing serotonin or the group of the catecholamines intracerebrally, or, for that matter, peripherally. It is rather remarkable, therefore, that the drug is able to produce

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sedation or tranquilization in mice and monkeys. Prolonged animal studies have shown an also remarkable freedom from side effects and toxicity.

A preliminary program was established in September 1961 to determine the phrenopraxic range(1) of the drug. Following the demonstration of lack of toxicity in volunteers, 51 patients, determined through proper screening to be placebo non-reactors (2), were administered the drug according to our triple-blind technique.² This group was controlled with another comprising 16 subjects receiving identical placebos and having a similar human composition. The study sample was composed of 7 manic-depressive, manics; 12 hyperkinetic schizophrenics; 8 diffuse organic brain syndromes with severe agitation; 5 anxiety states; 14 simple stress reactions manifesting severe agitation; and 5 endogenous depressions.

The manics received an "average therapeutic dose" (ATD) of 400 mgs. for about 6 weeks before being placed on the "average maintenance dose" (AMD), which was 100 mgs. The "minimum effective dose" (MED) was 100 mgs. in this group and the "maximum useful dose" (MUD) was 1200 mgs. Four of the 7 patients in this group went into full remission and one, a very chronic case, showed substantial improvement. The remaining two did not respond at all.

Six of the 12 hyperkinetic schizophrenics showed reduced overactivity, but without any primary or secondary changes in their psychosis. Six were unaffected. ATD in this group was 300 mgs., given daily for 6 months. The AMD in those who became less agitated averaged 150 mgs. MED was 150 mgs. and MUD was 600 mgs.

In the organic brain syndromes ATD was 100 mgs., MED 50 mgs. and MUD 300 mgs. The AMD was equal to the ATD. Only two of the patients showed relief from agitation, and these two were subsequently found to be of non-parenchymatous cerebral dysfunction type. The remainder showed inconclusive and ungradable response and 3 of them appeared even to be slightly over-

stimulated. This particular manifestation is now the subject of further study.

The ATD in the anxiety neurotics was 200 mgs., the drug being given for 3 months. No particular effectiveness was found in this group, outside of being the one where the only side effects were reported, namely drowsiness (mild and of short duration) which appeared at doses of 100 mgs. about 15 to 30 minutes after ingestion. Because of its ineffectiveness in this group, other dosage factors were not determined.

The ATD in the simple stress reactions was 100 mgs. and was required for an average of only 2 weeks. AMD was found to be 25 mgs., which was equal to the MED. MUD was 300 mgs. Thirteen of the 14 patients in this group had complete relief from their apprehension and agitation. One failed to respond even at doses of 600 mgs.; he subsequently improved with thioridazine.

The ATD in the endogenous depressions was 400 mgs. without any effect, for which reason other dose factors could not be determined.

Clinically observed and objectively evaluable side effects were 2 cases of drowsiness, found among the anxiety neurotics, and 1 case of gastritis. Laboratory studies, consisting of FBS, NPN, SGOT, SGPT, CHOL, alkaline and acid phosphatase, and Van den Bergh, were done every 2 weeks; complete hematology and urinalysis were done twice a week: excretion studies of 5-HIAA, DOPamine and catecholamines were done weekly. No variations from the normal range were observed.

It appears from our data that benzquinamide is a good, probably superior, tranquilizer, indicated for simple stress reactions. It has a phrenopraxic range similar to the barbiturates and meprobamates, but owing to its freedom from side effects and toxicity, and its clean laboratory record, it seems far better. It has no antipsychotic nor antidepressant activity, and it is not an anagolytic.

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² All doses quoted here are to be understood as having been administered daily, on a q.i.d. schedule.

A NEW METHOD OF DRUG THERAPY¹JOHN KINROSS-WRIGHT, M. D., ALFRED H. VOGT, M.D., AND
K. D. CHARALAMPOUS, M.D.²

Fluphenazine enanthate (SQ 16,144) is the heptanoic acid ester of fluphenazine (Prolixin[®]). Dissolved in sesame oil and injected subcutaneously into adipose tissue, it slowly releases fluphenazine over a period of two weeks. Burke, *et al.*³, have shown that a single dose of this substance will inhibit the conditioned avoidance response in rats for 12-15 days while an injection of ordinary fluphenazine inhibits for only 24-48 hours. Inhibition of apomorphine-induced vomiting in dogs is prolonged for as long as 4 weeks. Toxicity and pharmacological effects of the enanthate are essentially comparable to those of fluphenazine itself.

Our preliminary observations in monkeys and human volunteers indicated a similarly prolonged effect in man.

A double-blind control study (reported elsewhere) showed that twice monthly subcutaneous injections of 25 mg. of fluphenazine enanthate were therapeutically equivalent to daily 5 mg. doses of ordinary fluphenazine by mouth. In addition, in any 2-week period, the total dose of fluphenazine necessary for equivalent therapeutic effect was three times that of the enanthate.

We have treated 147 patients with fluphenazine enanthate in 3 hospital services. With the exception of one manic patient, all had schizophrenia. The majority fell into the undifferentiated or paranoid categories; 127 were chronic cases. The average duration of illness for all patients was 6.14 years. Sex: 109 male, 38 female.

The drug was given at fixed intervals of 14 days by subcutaneous injection either into the buttock or abdominal wall. The former appeared to be the site of preference, though in either case local irritation was uncommon. The majority of the injections were in 25 mg. amounts. However,

12.5-100 mg. were tried without significantly better effect. Duration of treatment ranged from 2 weeks to 6 months.

Clinical effects were in every way comparable to those of fluphenazine itself, though onset of action is delayed typically for 24 hours. Persistence of tranquillizing effect was consistently noted for 10-20 days with a mean of 13 days.

As was predicted with a piperazine-substituted phenothiazine extrapyramidal effects were obtrusive, occurring in slightly over half the cases. In the main, these were of the episodic dystonic variety. Other side effects were rare. Dizziness, insomnia, dryness of mouth and disturbance of visual accommodation were noted. Extrapyramidal effects were typically maximal on the 2nd-4th day after injection and decreased thereafter. In every case they responded well to anticholinergic medication.

Therapeutic results were better, as might be expected, in the acute rather than the chronic patients. However, of the total number, 17 were unimproved or worse, 40 showed relief of some major symptom though they were still psychotic, 68 showed relief of many symptoms and made a good adaptation to the hospital situation, and 22 achieved remission of their illness and were discharged.

It is possible therefore to conclude that fluphenazine enanthate injected in doses of 25 mg. twice a month is essentially equivalent to standard daily dosage with oral phenothiazines.

A number of authors have pointed out that quality and duration of remission in schizophrenic patients are related to adequate maintenance medication following discharge from the hospital.

Lack of insight or cooperation on the part of the patient or his family more often than not leads to rejection of medication. Cost of drugs, lack of follow-up facilities are additional factors. In general psychiatrists have, through experience, become resigned to a high relapse rate in schizophrenic

¹ Partially supported by grant #MH-05121.

² From the Psychopharmacology Center, Houston State Psychiatric Institute and Baylor University College of Medicine.

We wish to thank the Squibb Institute for Medical Research for supplying Prolixin enanthate.

³ Fed. Proc., 21 : 339, 1962.

patients who have responded to drugs while in the hospital.

A slow-release preparation of an effective phenothiazine which can be given at long intervals would solve much of the problem. Responsibility for daily medication would

be removed from the patient and would be reduced to scheduled visits to the office or clinic. Fluphenazine enanthate is such a preparation though it has the disadvantage of producing a high incidence of extrapyramidal reactions.

TRIFLUOPERAZINE COMBINED WITH AMITRIPTYLINE IN PARANOID PSYCHOSIS¹

SYLVIA F. CHENG, M.D., AND ERNEST J. FOGEL, M. D.²

One hundred female schizophrenic patients in acute intensive treatment service were selected and given the drug combination of trifluoperazine (Stelazine) and amitriptyline (Elavil)(1-5) during the period from Sept. 1961 to July 1962. They were all newly admitted or readmitted, acutely psychotic with paranoid features but showed little evidence of deterioration. Seventeen patients had a history of mental illness less than one month; 21, 1-6 months; 26, 6 months-2 years; 18, 2-10 years and 15 over 10 years. The majority had received private psychiatric treatments prior to admission, 58 were hospitalized previously at private psychiatric hospitals or this hospital. Their ages ranged from 16 to 68 with the average age 34. The criteria for selection were based on target symptoms: paranoid ideation, paranoid attitude, hostility, anxiety, endogenous depression, somatization and hallucination(2-4, 6).

Medication consisted of trifluoperazine 5 to 10 mg. b.i.d. or t.i.d. with amitriptyline 25 mg. or occasionally 50 mg. t.i.d., and chlorpromazine, thioridazine, chlorprothixene or chlordiazepoxide were given in the beginning to control severe motor disturbance. Amitriptyline 20 mg. I.M. were given PRN for acute anxiety and severe depression. Seventy-three patients showed remarkable improvement, 22 showed improvement in area of paranoid component and 5 were unchanged due to disorganization

of thinking and depersonalization. They blamed everybody unjustly on admission but in two weeks they became friendly, warm and gained insight believing that they were helped here. They participated in psychotherapy, group activities and industrial therapy within a very short period of time. Their personal hygiene and interpersonal relationship were greatly improved; many families commented that "they were better than they had ever been for years."

Because of the extraordinarily good result obtained on schizophrenic reaction, paranoid type, we selected another 25 female patients who suffered from paranoid psychosis associated with mental disorders other than schizophrenia. They were 5 involuntal, 5 arteriosclerotic, 5 senile, 3 Huntington's chorea, 2 C.B.S. a/w intracranial infection, 2 epileptic, 2 alcoholic and 1 paranoid state. We found that as far as relieving of paranoid psychosis is concerned such drug combination did equally well.

The usual extrapyramidal symptoms, dyskinetic and vagotonic reactions apparently caused by trifluoperazine are believably minimized by amitriptyline. Amitriptyline in the dosage of 25 mg. t.i.d. merely causes a slight dryness of the mouth in about 50% of the cases and constipation in about 30%. Dosage up to 50 mg. t.i.d. occasionally causes dizziness, drowsiness and blurring of vision. It counteracts digitalis effect slightly(4, 5, 7).

COMMENT

By adding amitriptyline to trifluoperazine the antipsychotic effect of trifluoperazine

¹ Trifluoperazine (Stelazine) and amitriptyline (Elavil) are manufactured by SK & F and Merck Sharp & Dohme, respectively.

² Respectively, Acting Chief, AIT Service, and Superintendent, Logansport State Hospital, Logansport, Indiana.

zine is believed greatly enhanced, with improvement of paranoid psychosis observed in 95% of the cases whereas trifluoperazine given alone would relieve psychosis up to 75%(3) and amitriptyline per se would relieve depression up to 79% of the cases(4). The usual period required to obtain maximum benefit is reduced from 4 to 2 weeks. The patients have appeared normal and experienced a sense of well being; thus it makes drug therapy more acceptable. The rapid clearing of paranoid delusion especially calls for further study of amitriptyline given in combination with trifluoperazine and other phenothiazines.

It appears to us that each 25 mg. of amitriptyline would eliminate parkinsonism induced by 5 mg. of trifluoperazine; 2.5 mg. of fluphenazine; 8 mg. of perphenazine; 10 mg. of prochlorperazine and 100 mg. of chlorpromazine whereas trifluoperazine given alone would cause parkinsonism in 41% of the cases, fluphenazine, 31%, perphenazine, 20%, prochlorperazine, 15%, and chlorpromazine, 10% according to a review of 178 clinical series of 10 phenothiazine

derivates by Anderson which seems parallel to our observation(7, 8).

SUMMARY

One hundred schizophrenics and 25 others with paranoid psychosis received trifluoperazine and amitriptyline in combination. The results were unusually gratifying and side effects reduced.

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ECG CHANGES DURING AMITRIPTYLINE TREATMENT

E. BOJE RASMUSSEN, M.D., AND P. KRISTJANSEN, M.D.¹

Amitriptyline has to a certain extent replaced imipramine in the treatment of depressions and is by some investigators found to have fewer side effects. V. Lunn and E. S. Kristiansen² have described cardiac complications under imipramine, appearing in the ECG as isoelectric or negative T₁ or T₂. According to our experience so far amitriptyline may produce similar ECG changes.

On 33 male and 32 female patients ECG was controlled at least once during amitriptyline treatment and compared to ECG from periods without administration of thymoleptic drugs.

Amitriptyline was given perorally in a dosage varying from 75 to 225 mg. daily, and treatment was continued for at least

3 weeks. The average age in the group was 60 years.

In the male group evident ECG changes were found in 3 patients, less certain changes in 13, and no changes in 17 patients. In the female group the corresponding figures were 9, 8 and 15. Evident changes include isoelectric T₁ or T₂ or both, depression of the S-T interval, frequently appearing ventricular extrasystoles; in 1 case right ventricular preponderance was accompanied by stenocardiac complaints.

As less certain ECG changes we have regarded flattening of T-waves in first and second lead, although still positive, tachycardia, inversion of T-waves in third lead, and finally solitary ventricular extrasystoles. In this group as well we have included 3 male patients suffering from cardiac disease and deteriorating during amitriptyline treatment :

¹ Sct. Hans Mental Hospital, Roskilde, Denmark.

² *Wien. Med. Wschr.*, 110 : 754, 1960.

1. A male patient, age 67, suffering from cardiac disease with perpetual arrhythmia, developed a fatal cardiac insufficiency under 50 mg. of amitriptyline daily. During treatment diphasic T_1 and T_2 were registered. 2. A male patient, age 66, suffering during several years from stenocardia, developed an apparent coronary thrombosis with subsequent interventricular heart-block after 3 months under amitriptyline up to 150 mg. daily. 3. A male patient, age 47, suffered from hypertensive cardiac disease. Under previous imipramine treatment negative T_1 and T_2 was transitorily registered. Under amitriptyline 75 mg. daily isoelectric or diphasic T_1 and T_2 reappeared.

Finally some patients showing positive ECG changes under amitriptyline are registered in the second group under "uncertain changes" because the control ECG's were not considered comparable.

Four elderly female patients with cardiac debilitation had to discontinue amitriptyline treatment at an early stage. One of them, aged 75, who had suffered from a coronary attack 16 days before treatment, was severely dyspneic after the second 25 mg. dose of amitriptyline. Three female patients aged 82, 66 and 64, respectively, showed hypotension, tachycardia, and dizziness after 1-2 weeks under amitriptyline, the oldest of them having ECG signs of coronary thrombosis 3 days after discontinuation. The other 2 patients were relieved from their symptoms soon after

treatment was stopped.

A female patient, age 49, with no previous history of cardiac disease developed under 100 mg. daily of amitriptyline ECG changes in the shape of isoelectric T_2 . When after 60 days of treatment the patient wanted discharge for private reasons, amitriptyline was replaced by imipramine in the same dosage. Two days later she stopped taking the tablets due to dizziness, dyspnea, and tachycardia. After a fainting attack she was readmitted to hospital with clinical and ECG signs of myocardial infarction, which gradually disappeared.

Based on the present preliminary impressions it is considered advisable to initiate all amitriptyline treatments by ECG examinations and to use a cautious dosage in elderly patients, *i.e.*, above 65 years. If the preliminary ECG is found abnormal, treatment must be carefully considered and supervised, according to the actual changes. An isolated appearance of isoelectric or diphasic T_1 and T_2 during amitriptyline administration is probably of minor importance.

After termination of the present study two female patients under amitriptyline developed left interventricular heartblock, disappearing completely after discontinuation.

A NOTE ON THE SCHIZOPHRENIC COLLEGE STUDENT

EDWARD PODOLSKY, M.D.¹

There are more than 3,000,000 students currently enrolled in the nation's 1,900 colleges and universities. The frequency of schizophrenia in college students has been estimated at 24.6% by Melvin L. Selzer.² This is an increase of 8% previously established. It is Selzer's belief that the apparent increase is probably due to changing diagnostic criteria. The diagnosis of schizophrenia is no longer reserved solely for persons having definite disorders of thought and perception. The diagnosis can be made, or at least, suspected, on the basis of severe affective disturbance, inability to establish meaningful object relationships, conceptual difficulties, and behavioral aberration.

Most schizophrenic college students are able to cope with the scholastic demands; many are capable of receiving undergraduate and advanced degrees. However, they expend more time and energy in attaining their goals.

The present author has been treating a number of schizophrenic college students through the years. He has been made aware of certain characteristics in them which are quite common. The following characteristics apply generally to the schizophrenic student:

1. He is not quite goal-directed as to his life's vocation, but has vague ideas of what he might want to be, usually some occupation beyond his capabilities—an indication of a loose contact with reality.

¹ 1049 E. 18th Street, Brooklyn, N. Y.

² A.M.A. Arch. Gen. Psychiat., 2 : 133, 1960.

2. His methods of studying are bizarre. He devotes a great deal of time to studying, but is not able to concentrate effectively on his tasks ; he is easily distracted by extraneous factors during his study period. He does copious underlining of passages in his textbooks, makes marginal notes, makes summaries on cards, but is actually not too aware of what he underlines or summarizes. Usually these are mechanical procedures. There are periods of intense study activity followed by periods of little or no study at all.

3. He always aims for an A in all his subjects, but manages at best a B, most often a C. Though always aiming high, he inwardly knows that he will never be able to attain an A, and is therefore quite happy to obtain any passing grade.

4. He is not able to discuss any topic for any length of time. He is easily distracted, and wanders from subject to subject illogically.

5. He has a tendency to make himself conspicuous in his class. He joins classroom discussions, although he is not prepared to contribute anything to the discussion. Afterwards he realizes that he has made a fool of himself and resolves thereafter to refrain from classroom discussions ; but the very next time repeats this sorry performance. In time he begins to feel that his classmates as well as his instructors regard him as an oddball.

6. He is not able to form close interpersonal relationships. He feels threatened and suspicious of his classmates. The friend-

ships he forms are for selfish purposes, to learn about previous examination questions, to obtain free tutoring, *etc.*

7. He seeks special attention from his instructors, ingratiating himself by doing favors for them. He also hands in over-elaborate assignments. He endeavors to get himself noticed and liked by his instructors. He seldom succeeds in getting favorable attention ; most often his instructors regard him as queer.

8. He has the feeling that the administrative staff is composed of spies, that his class advisor is trying to "get something on him." For this reason, he consults with him on as few occasions as possible.

9. He never seems confident enough to take a final examination although he has made elaborate preparations for it. He finds some excuse so that he will be permitted to take a make-up examination. These make-up examinations tend to complicate an already over-complicated program.

10. He takes the easiest subjects early in his college career, leaving the more difficult ones for his junior and senior years. Most often he is required to take summer courses and more than 4 years to complete his college work.

For some strange reason most schizophrenic students are able to complete their college work with a fair to good average. Quite a few of them look forward to graduate work or professional school. A few even succeed in getting admitted to medical school.

CASE REPORTS

THE RESPONSE OF AN ADRENALECTOMISED PATIENT TO ECT

A. H. CRISP, M.B., M.R.C.P.(E), AND F. J. ROBERTS, M.B.

This memorandum records the successful treatment with ECT of a depressive illness in a totally adrenalectomised patient.

ECT has come to be regarded as being most beneficial in depressive states. Many authorities believe that it is the "endogenous depression" which responds best to this therapy(1-3). It is generally agreed that it does no more than interrupt the current illness.

In 1948 Gordon(4) collected some 50 theories regarding the mode of action of ECT. The psychodynamic theories are difficult to substantiate(5). The possible reactions and experiences of fear and punishment engendered by the ECT have been found to be unrelated to improvement during treatment(6-10). Ottoson(11) has shown that the essential therapeutic factor is the fit and that the memory disturbance, held by some as important for recovery(12), may develop equally with subconvulsive electrical stimulation. Others have shown that stimulation of the diencephalon, recordable on EEG, is an important factor in recovery(3-13); the patient begins to experience consciously acceptable reality once more, perhaps because anxiety is being engendered and repression consequently facilitated(14). Fleming(15), reviewing current theories on the action of ECT, points out that it has been claimed that the response depends upon an increased resistance to stress following the stimulation of the pituitary adrenal axis with a consequent increased secretion of steroid hormones(16, 17). This theory was refuted in 1956 when a case was carefully described of a depressed but adrenalectomised patient

who responded well and promptly to ECT(18). We have recorded a similar and second case since the theory is still propounded(19).

The patient, a 55-year-old spinster, is suffering from a fairly widespread breast carcinoma. Despite this, she is still subjectively physically fit. In 1956, she underwent a radical mastectomy which was followed by local radiotherapy. She was subsequently maintained on oestrogens and was given further radiotherapy to the superficial secondary deposits. Spread to the opposite breast was noticed, and adrenalectomy was advised. In March 1961 she underwent a bilateral oophoro-adrenalectomy in a two-stage procedure. Within a few hours of losing all her adrenal tissue she became agitated, importunate and depressed. She complained of lack of energy, difficulties in concentrating, and an overwhelming fear and belief that she was going to die from a stroke. She was resistant to the idea of further treatment, and suspicious of our intentions to a delusional degree. She was found to be denying the sinister nature of her real physical illness and any contemplation of this worsened her agitation and depression. Initially, our attention was directed towards the hormonal upset as a possible cause of her depression. Depression, however, is not a common sequel to adrenalectomy, although it is sometimes associated with hypercorticism, endogenous or iatrogenic, especially if there is a pre-existing manic-depressive diathesis in the personality. The steroid replacement therapy was therefore tentatively reduced in amount for a few days but without effect on the mental state, so that the dosage was thereafter restored to that of the normal post-operative regime.

We then concluded that she was suffering from a depressive illness which had been precipitated by the implication and unexpected extent of the recent operations but which was independent of hormonal disturbance. This view was consistent with the history of a depressive illness of similar nature 19 years previously which had responded to ECT. After 2 weeks' treatment with antidepressive

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We would like to thank Dr. D. W. Liddell, Consultant Psychiatrist to King's College Hospital, for his permission to publish this case, and his advice.

drugs and a minimum of psychotherapy, during which there was no change in the patient's state, we decided to supplement her treatment with ECT. She responded appropriately and was quite recovered after 9 treatments, saying she had not felt so well for many months. During the treatment period she was receiving tranylcyromine (Parnate) 10 mgms. t.d., trifluoperazine (Stelazine) 5 mgms. b.i.d., cortisone 25 mgms. q.i.d. and 9-alpha-fluorohydrocortisone 0.1 mg. daily. She was discharged and returned to work. During the last 15 months she has continued at work and has been substantially well. There have been 2 fairly acute relapses despite the fact that in the first instance she was still taking tranylcyromine. These illnesses were treated successfully, on an outpatient basis, with a further 7 and 5 ECTs respectively.

The impression from this case has been one of repeated recovery from depression in response to ECT in the absence of the patient's adrenal cortices.

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FURTHER DATA TO THE CLINICAL EFFECTS OF NIALAMIDE

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Nialamide was instituted in massive doses in a case of longstanding depression, treated before unsuccessfully with various anti-depressant agents.

The patient is a 36-year-old male of average weight and build showing the classical clinical picture of depression. This condition had lasted for more than 4 years, with ups and downs and increasingly shorter remissions. There were two previous depressive episodes, one 19 and the other 13 years ago. He also had eczema of 7 years' duration and colitis of more than 20 years. Both conditions were static.

We started with the initial doses of 300 mg. Nialamide a day, as suggested by N. S. Kline

(1). Between the 10th and 15th day, first the feeling of depersonalization disappeared, then gradually the emotional tone changed, soon to reach levels of euphoria and a kind of hypomanic over-activity.

The pattern of sleep changed also, requiring less sleep yet awakening refreshed. Interestingly the nightmarish content of the dreams did not change for a considerable time.

Between the second and third week the eczema spontaneously disappeared and the colitis changed to constipation, then to normal stools. About the same time the patient, who never cared before for sweets, developed a voracious appetite, particularly for sweets, consuming an incredible amount of pies and candies. Although the increase of appetite was amazing, the gain in weight was still not in

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proportion, since the patient gained more than 20 pounds in less than 10 days. He noticed that his output of urine diminished considerably, suggesting a parallel retention of water. Liver function tests made at this time showed: direct Van den Bergh 0.0, total bilirubin 0.2, serum transaminase /SGPT/ 8 units, showing reactions within the normal range, and alkaline phosphatase 0.23 Bodansky units, which is considerably lower than the normal range.

Between the 7th and 8th week of treatment, the patient experienced an excruciating headache with sudden onset, starting at the nuchal area, spreading forward to the frontal area, diminishing somewhat when standing upright and increasing when sitting or lying. The pulse rate decreased to 40/min. and the blood-pressure showed a sudden rise, above 190 mm. systolic pressure.

In about 25 minutes the headache disappeared as suddenly as it started, the pulse rate returned to normal and so did the blood-pressure, returning to 108/65 mm. which was his normal rate. Assuming that the fluid retention was related to this attack, diuretics were administered and the dose of Nialamide was decreased, first to 200 mg. then to 150 mg. a day. In spite of the reduction two more similar attacks occurred, however of far less severity.

Although the emotional response to this drug was remarkable, in view of these side effects the treatment was discontinued. A few weeks later the eczema reappeared and so did the colitis.

Reviewing the literature dealing with the effects of Nialamide, we found one article where E. Beresford Davies(2) described quite similar attacks with sudden increase of systolic blood-pressure, associated with typical headaches, and slowing of pulse rate; he too attributed these manifestations to fluid retention.

In conclusion, if we consider the definite changes in patient's appetite, sleep pattern, water metabolism, carbohydrate metabolism and the imbalance of the vaso-motor system, all these seem to confirm previous reports that the site of action of this agent is the diencephalic area. The definite changes in the alkaline phosphatase rate matches with the results of R. Naranjo(3), who found in approximately half of his cases treated with Nialamide decreased alkaline phosphatase rates. The changes observed regarding patient's eczema and colitis leave us open to speculation as to the etiology of these somatic manifestations and their response to this agent.

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TRANSIENT NEUROLOGICAL SYMPTOMS ACCOMPANYING ECT

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Neurological symptoms are a feared but fortunately rare complication of ECT(1). This case is unusual because of the necessity to persist with ECT after the neurological symptoms abated.

A 56-year-old married housewife was admitted to the North Carolina Memorial Hospital on 7/8/61, with a 7-month history of affect depression, severe anorexia, some weight loss, loss of interest in her usual surroundings, agitation, and insomnia with early morning awakening. There was also severe somatic concern focused around her heart. She pre-

sented a depressed apathetic appearance, with worried facial expression, moderate psychomotor retardation, and considerable hypochondriacal concern without delusion, associated with a dry mouth. Sleep and appetite were poor, and periods of agitation were seen.

Physical examination was notable for a hypertension of 200/100, and there was a suspicion of angina pectoris. EST was deferred for a time because of the fear of cardiac complications, but she deteriorated rapidly. After 2 weeks in the hospital, she was started on EST modified with Anectine and Pentothal. On 7/28/61, after her third treatment, she manifested considerable confusion, and in the afternoon began to complain alternately of

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chest pain and numbness in her body without any specific focus. However, on the following day when she seemed less confused, she complained of parasthesias of the left arm and leg, with weakness of the left arm. Repeated neurological examinations showed initially lower left facial weakness and weakness of the left arm and weakened dorsiflexion of the left foot, with slightly hyperactive DTR's on the left. There was a transient Babinski on the first and second days of examination. The sensory complaints were not confirmed. Gait was disturbed with associated arm and leg movements being less coordinated on the left. The neurologist felt she had a transient ischemic cerebral episode, and ECT was withheld. Imipramine, 150-200 mg. daily, was given, but the patient regressed markedly, becoming ceaselessly agitated, sleepless in spite of large doses of sedatives, and anorexic to the point of necessitating tube feeding. She sat ceaselessly picking at her hands, fingernails, and clothes, and had many delusions concerning her guilt. Because of the marked deterioration of her condition, she was reconsidered for ECT. The neurologists felt that all but the slight weakness in her left leg had cleared. The family was apprised of the serious risk in treating her, and with their agreement she received 11 additional ECT's between 9/7 and 9/29/61. During the first week she received daily ECT because of her marked regression, weight loss, and the difficulty of maintaining hydration. Following treatment, she was forgetful and confused, but easily managed by ward personnel. She was discharged on 10/13/61, much improved with only the aforementioned weakness of the left leg which did

not seem to impair her to any obvious degree. Recent follow-up showed no recurrence of her illness nearly a year later, and no progression of her neurological symptoms.

This is the second reported case with hemiparetic symptoms, the other being reported by Olsen(2). Vascular and cellular changes are reported in experimental animals, and in deaths occurring in connection with ECT(3). Madow believes most of these changes are reversible(3), which seems to be borne out by the experience with this patient. This case also confirms Kalinowsky's assertion that previous cerebrovascular disease is not an absolute contraindication to treatment(1).

SUMMARY

A case is reported of a 56-year-old psychotically depressed woman with severe vascular disease who suffered a transient hemiparesis after her third ECT. Her neurological picture cleared almost completely, and she later received 11 further ECT's with a good remission of her psychosis. No further neurological sequelae were noted, and she is well 9 months after discharge.

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TRANQUILIZERS AND PSYCHOSOMATIC ILLNESS

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The following case histories illustrate the beneficial effect of tranquilizers on psychosomatic illness. Controlled studies on such patients and syndromes are difficult to obtain. Neither their degree of illness nor society demand their confinement.

Case 1. White male, aged 33, married. Diagnosis: globus hystericus. A traveling salesman, father of one child, whose history was replete with emotional instability. His wife gave birth

to only one child. Salpingectomy following tubal pregnancy prevented further pregnancies. His symptoms were most acute during emotional excitement. The condition had existed on and off for years. When first seen on Mar. 9, 1962, he was placed on chlorpromazine spansules, 75 mg. t.i.d. On his second visit on Mar. 13 he reported considerable improvement, and by Mar. 16 he was free of complaints. There are periods when he gets along with one or two 75 mg. spansules a day. At this writing, Aug. 9, 1962, the patient is able to control his disturbance pharmaceutically.

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Case 2. White female, aged 35, married. Diagnosis : globus hystericus. A mother of 5 children, the youngest 3 months old. When first seen on July 21, 1962, she was wearing a wet towel around her neck, complaining bitterly of "stiffness outside and inside her neck," conforming with other classical complaints of globus hystericus. The patient stated that after each delivery she had been depressed and anxiety ridden. She was reassured and placed on chlorpromazine spansules, 75 mg. t.i.d. Four days later globus symptomatology had considerably abated. Two weeks after initiation of pharmacotherapy all globus symptomatology had disappeared. Her personality remains that of an emotionally unstable person, well expressed in the past by her psycho-obstetrical history.

Case 3. White male, aged 33, single. Diagnosis : cardiovascular neurosis ("heart flutter"). A television technician. His parents divorced when he was six. After living with father and stepmother while 7 years of age, conditions were so intolerable that his mother called for him and raised him. When first seen on May 8, 1962, he gave a history of many years of a "fluttering heart, which beats very fast at times, hurts him and scares him to the degree he thinks he is going to die." This started at age 10. There had been numerous ECGs and even EEGs, all with normal results. He functioned when first seen with a blood pressure of 120/82 and a pulse rate of 90, which was regular. Initially placed on chlorpromazine,

75 mg. spansules, t.i.d., this was changed 4 days later to 150 mg. at hour of sleep, since he complained of a feeling of being "keyed up all day," although there had been no "heart flutter and pain." On this dosage he has avoided this symptomatology since treatment began and recently completed a 2-week traveling vacation without incident.

There appears to be a possibility of giving relatively fast relief to a specific psychosomatic symptom, such as globus hystericus and cardiac discomfort, with pharmaceutical means. The three patients experienced reoccurrence of symptoms when temporarily discontinued from medication, but reinstitution of medication brought prompt relief. No placebos were used. We are aware of the unorthodox use of sustained release capsules. Rather than giving three of them at one time in the morning, or any time of the 24-hour period, they were given like ordinary tablets, t.i.d. Experience has shown that they are better tolerated than tablets. Whether or not it is a certain overlapping effect which occurs from such technique must remain subject to further investigation. Further reports on tranquilizers and psychosomatics along with investigative work regarding their functioning in this field are indicated and encouraged.

ELECTROSHOCK THERAPY OF A DEPRESSED PATIENT WITH COMPLETE HEART BLOCK

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THOMAS W. PARKIN, M.D.¹

We wish to report on a patient with complete atrioventricular heart block who had a course of EST for mental depression. A brief period of ventricular tachycardia and ventricular standstill occurred but the patient recovered.

A review of the literature revealed no report of a patient with complete heart block having received EST. However, we found reports of one instance of transient complete heart block and 11 instances of lesser forms of atrioventricular block oc-

curing after such therapy (5, 8, 9, 14, 17). It is of interest that, after such treatment, there have occurred a few instances of shortened PR interval with QRS prolongation simulating the Wolff-Parkinson-White syndrome (anomalous atrioventricular excitation) (12).

Several review articles indicate cardiovascular contraindications to and complications of EST (1-4, 6, 7, 10, 11, 13, 15, 19-23). An excellent recent monograph on the cardiovascular aspects of EST is that by Perrin (16).

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This 56-year-old man was first seen at the Mayo Clinic in Aug. 1961. His chief complaint was of a "nervous breakdown" which he said began in July 1959. At that time he had insomnia with early morning awakening and difficulty with memory and concentration. At the same time he began to have episodes of weeping, feelings of sadness and pessimism for the future, a decrease in sexual potency, and occasional persistent thoughts of suicide. All of these symptoms began within a few days and continued unchanged for 6 months. Then he began to feel guilty and to worry about recurring dreams which featured obscene expressions and phrases. Next he began to have persistent obsessional waking thoughts of the same type, such as fantasies about the appearance of the genitals of others. His appetite declined and he lost 40 pounds.

The patient sought help in his home community and was referred to a local psychiatrist who recommended private hospital treatment. Because physical examination revealed "athlete's heart," the patient was not given EST as had been planned. Instead, he was treated

with subcoma doses of insulin and orally administered tranquilizers and antidepressants. On this regimen he improved slightly and was discharged. The slight improvement was short lived, and he came to the Mayo Clinic on Aug. 8, 1961, where a diagnosis of involuntional reaction, depressive type was made.

There was no history of syncope, angina, dyspnea, or digitalis therapy. The ventricular rate ranged from 40 to 50 per minute and did not increase after exercise. The blood pressure was normal. The first heart sound varied in intensity, and a grade-1 systolic murmur was audible at the apex. His initial ECG revealed complete atrioventricular block (Fig. 1), and the cardiac silhouette was slightly enlarged on a roentgenogram of the chest.

The patient was admitted to the psychiatric unit for further psychiatric and cardiac evaluation. It seemed initially that this patient should not be treated with EST because of his cardiac disorder; therefore, a program combining psychotherapy and increasing doses of a MAO inhibitor was undertaken. It soon became evident that the patient's depression was so deep and inhibiting and his basic personality so rigidly defended that he was unable to communicate anything other than depressive and guilty material. He revealed an unusually rigid and unforgiving superego and much obsessional guilty preoccupation with ambivalent feelings about his parents and siblings. He was unavailable to any specific psychotherapeutic approach.

When his deep depression continued unchanged after this therapeutic trial, a conference was held. It was agreed that: 1. The patient could not function outside an institution if his depression continued unchecked. 2. Drug therapy and psychotherapy had little effect. 3. EST was the treatment of choice if the patient's heart could withstand it.

The situation was discussed thoroughly with the patient and his wife—the possible risks and complications of EST were explained. The patient and his wife requested EST, and treatment was begun on the 11th day of hospitalization.

The patient received 11 convulsive treatments in the next 26 days using a Medcraft Electroconvulsive unit. Atropine, grains 1/150 (0.43 mg.) was administered 30 minutes before each treatment. Anesthesia and muscle relaxation were achieved by administering 5 ml. of a 2.5% solution of sodium pentothal and 30 mg. of succinylcholine chloride (Anectine) intravenously. Oxygen, 100%, was administered by mask for several minutes before and after each treatment. A combination cardiac pace-

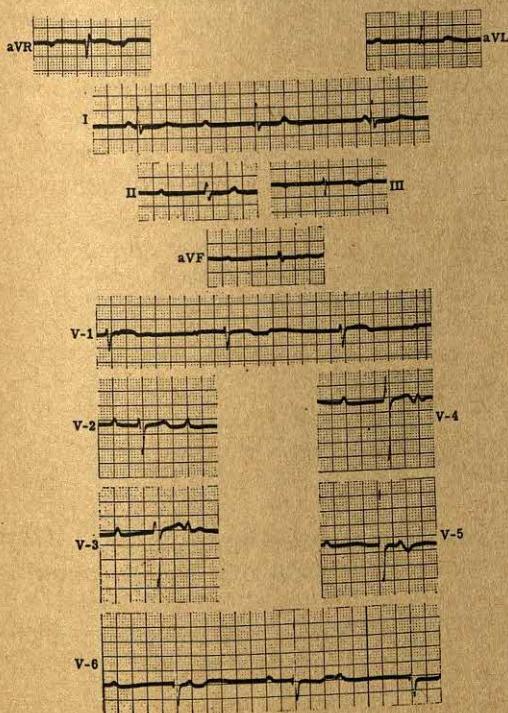


FIGURE 1

Electrocardiogram before EST shows complete atrioventricular block. Ventricular pacemaker seems to be located between AV node and origin of right and left bundle branches. AQRS (means manifest QRS axis) = +100. QRS interval = 0.10 sec. QRS voltage in precordial leads is suggestive of left ventricular hypertrophy.

maker-monitor and external electric counter-shock instrument was available in the treatment room. In addition, a surgeon was present to perform thoracotomy and cardiac massage if necessary.

ECGs were taken several times during the treatment. Significant ECG abnormalities appeared on one occasion immediately after the tonic convulsion: they consisted of ventricular

of complete heart block.

The patient experienced no syncope, angina or heart failure during EST and his blood pressure remained normal. Specific drug therapy for the heart block was not instituted, because the patient remained asymptomatic.

The patient's depression responded favorably to the shock therapy, and he was discharged Sept. 22 to the care of his family physician.

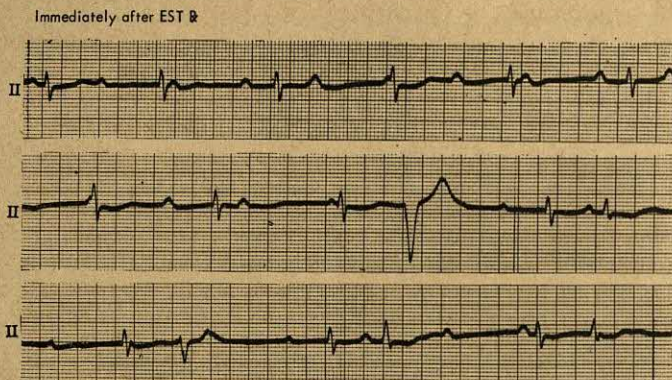


FIGURE 2

Lead II Immediately After EST. Fourth QRS Complex In Middle Tracing Shows Premature Ventricular Beat. In Lower Tracing Ventricular Bigeminy is Present Due To Multifocal Ventricular Beats.

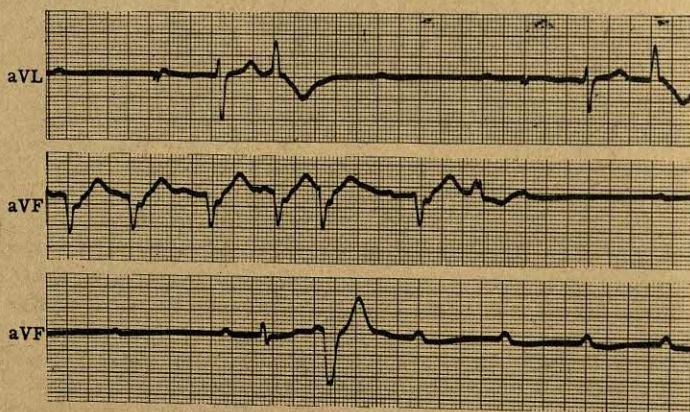


FIGURE 3

Note Leads Are Different From Those of Figure 2. Ventricular Premature Beats Produce Bigeminy In Upper Tracing. Middle Strip Reveals Ventricular Tachycardia, Terminal QRS Complex of Different Origin Than Preceding Complexes, and Ventricular Standstill. Lower Tracing, A Continuation of Middle One, Shows Return of Ventricular Activity For 2 Beats and Then Ventricular Standstill. P Waves Increase In Amplitude and Duration, Perhaps Because of Transient Atrial Enlargement Due To Increased Intra-atrial Venous Pressure. As Noted In Text, Electrocardiogram Subsequently Revealed Return To Pretreatment Status.

premature beats, occurring within 12 seconds, and of subsequent multifocal ventricular premature beats producing a ventricular bigeminy followed by a ventricular tachycardia lasting 6 seconds. Ventricular asystole then appeared and lasted about 8 seconds (Fig. 2, 3). The ECG then returned to the pretreatment pattern

Because of the apparent risk of ventricular standstill, fibrillation, or tachycardia in such a patient as ours, one should have readily available methods of applying electric currents externally: a cardiac pacemaker-monitor to apply electric stimula-

tion for ventricular standstill and an electric countershock instrument to interrupt ventricular fibrillation(24). If intrinsic pace-making activity does not resume after use of the designated instruments, intravenous administration of certain drugs, such as epinephrine and isoproterenol (Isuprel), may be required. In the presence of complete heart block, treatment of ventricular tachycardia with quinidine or procaine amide (Pronestyl) is contraindicated. In these cases, isoproterenol, ephedrine, or epinephrine should be used(18).

SUMMARY

A psychiatrically depressed patient with complete heart block received a course of electroshock therapy. On one occasion ventricular tachycardia and ventricular arrest occurred, but the patient recovered without cardiac therapy.

The potential aggravation of a pre-existing, serious arrhythmia should be considered carefully before the institution of EST, but the reported case illustrates that it can be used successfully in such circumstances. If necessary precautions are taken, such therapy may be appropriate when other treatment has failed.

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THE PRESIDENT'S PAGE

In a short time you will be receiving mail ballots on the adoption of the new constitution. The changes proposed are urgently needed. Our present constitution is essentially a document adopted forty years ago and it has been amended almost every year; as a result, it is a thing of shreds and patches with numerous internal inconsistencies.

These have resulted in some confusion about membership categories and eligibility, the functions of Council and even the geographic jurisdiction of the Association itself. The processing of membership through the appropriate district branch has been arranged in such a way that the Association gains from the intimate knowledge which the district branches have of potential members. The procedure, in turn, considerably clarifies the relationship between the district branches and the Association itself.

An important aspect of the new constitution is that it recognizes the Assembly of District Branches and makes the Speaker a voting member of the Council which is precisely the role he should play.

The new constitution, like all works of

man, is imperfect. However, it is the result of three years of labor. Every phrase of it has been run through the Constitution Committee, the Council, the Assembly of District Branches, the Long Term Policies Commission and the Policy Committee. As a result of all this clash of mind on mind, the document has been polished. It has been molded to meet objections raised at various stages by each member of the reviewing bodies.

We hope you will vote "Yes" on this new constitution and by-laws. If it is not adopted we shall have to get along with our jerry-built, patched-up old document. If it is not adopted the Policy Committee will have no recognition, the Speaker will have no vote on the Council and the awkward and ill-defined relationship between the district branches and the central office will continue.

We urge the support of the proposed constitution, not because so many have sweated so long to prepare it, but because it provides our growing organization with a new, necessary, and smoothly purring governmental machine.

C. H. HARDIN BRANCH, M.D.,
President.

COMMENT

NARCOTIC DRUG ADDICTION

Recent advances in the understanding and handling of problems in narcotic drug addiction have been carefully studied in many medical, legal and research areas. Dale C. Cameron, M.D. is Chairman of the Committee on Narcotic Addiction of the Council on Mental Health of the American Medical Association. He and the members of his Committee have furnished the following report for publication in the Journal.

L. H. S.

Because of widespread misunderstanding on the part of the public and various professional and other groups and individuals about the problems associated with narcotic addiction in the United States, the American Medical Association and the National Research Council recently issued a joint statement designed to clarify some of the issues involved. The Federal Bureau of Narcotics, in commenting on the joint statement, expressed "its complete approval of the views" contained. The entire statement follows :

The American Medical Association and the National Research Council for many years have been concerned about and have studied the narcotic drug addiction problem. To assist in carrying out its studies, the American Medical Association collaborated with the American Bar Association in establishing a Joint Committee which made an Interim Report to the two organizations in 1958, and a Final Report in 1959.

It is concluded that there is widespread public and professional misunderstanding about this subject, specifically (1) that the Federal Bureau of Narcotics believes drug addiction to be a crime : a belief that is contrary to the Federal law and its application by the Bureau, and (2) that the American Medical Association proposes the establishment of community ambulatory clinics for the withdrawal of narcotics from addicts or for the continuing maintenance of addicts on narcotics ; a belief that is contrary to the official position of the American Medical Association.

Historically society has found it necessary to employ legal controls to prevent the spread of certain types of illness that constitute a hazard to the public health. Drug addiction is such a hazard.

The successful and humane withdrawal of individuals addicted to narcotics in the United States necessitates constant control, under

conditions affording a drug-free environment, and always requires close medical supervision.

The successful treatment of narcotic addicts in the United States requires extensive post-withdrawal rehabilitation and other therapeutic services.

The maintenance of stable dosage levels in individuals addicted to narcotics is generally inadequate and medically unsound and ambulatory clinic plans for the withdrawal of narcotics from addicts are likewise generally inadequate and medically unsound.

As a result of these conclusions the American Medical Association and the National Research Council oppose on the basis of present knowledge such ambulatory treatment plans.

These two organizations support (1) after complete withdrawal, follow-up treatment for addicts, including that available at rehabilitation centers, (2) measures designed to permit the compulsory civil commitment of drug addicts for treatment in a drug-free environment, (3) the advancement of methods and measures towards rehabilitation of the addict under continuing civil commitment, (4) the development of research designed to gain new knowledge about the prevention of drug addiction and the treatment of addicted persons, and (5) the dissemination of factual information on narcotic addiction.

Narcotic drug addiction in the United States is a serious problem in some of the larger cities. Although the rate of known addiction for the general population has decreased in recent years, the rate is high for some minority groups. The essential elements for the production of narcotic drug addiction are (1) susceptible unstable persons, (2) available narcotic drugs, and (3) the means for bringing the susceptible person and the drugs together. Psychiatrists have principal roles in mental health activities that will contribute to prevention by decreasing the number of susceptibles and

in programs for the treatment and rehabilitation of addicted persons. Since susceptible persons are very frequently introduced to narcotic drugs by someone who is already addicted, the treatment of the addicted person will benefit the individual and will decrease the spread of addiction. The treatment of narcotic drug addicts is a medical problem. The control of the availability of drugs is a problem that includes international restrictions of production to medical requirements and enforcement of narcotic drug controls at the international, national, state, and local levels. Although the control of the availability of narcotic drugs is largely a nonmedical problem, it is of direct interest to the psychiatrist because of its role in prevention.

Narcotic drug addiction among persons in the United States, aside from those with chronic terminal or extremely painful conditions necessitating medical addiction, is, in the vast majority of cases, a symptom of an underlying personality or emotional problem. This "symptom" itself leads to further psychological, physiological, and pathological changes. Long-term maintenance of a patient in an addicted state when there is no indication for the administration of narcotics other than to maintain the addic-

tion is not fulfilling the obligation of a physician, and is contrary to Federal law. It is not an effort to restore the health of the patient, but an attempt to give "relief" on rather dubious grounds, since it continues the very condition for which relief is needed. There may be occasional cases in which it would be medically unsafe to attempt withdrawal, but such situations are indeed rare.

The physician who endeavors to withdraw narcotic drugs from an addict in other than a drug-free environment should do so only with the full recognition that he has undertaken a most difficult procedure. Most addicts will endeavor to augment their supply of drugs through other sources. Withdrawal in a nondrug-free environment should be undertaken only as research in attempting to develop new treatment methods, and then only with adequate consultation.

The American Medical Association and the National Research Council are opposed "on the basis of present knowledge" to ambulatory treatment plans as a generally applied routine method, but encourage research directed to improved methods of treatment, as well as prevention.

DALE C. CAMERON, M.D.

POLITICAL POWER

At last I perceived that the continuation of all existing states is bad and their institutions all but past remedy without a combination of radical measures and fortunate circumstances; and I was driven to affirm, in praise of true philosophy, that only from the standpoint of such philosophy was it possible to take a correct view of public and private right, and that accordingly the human race would never see the end of trouble until true lovers of wisdom should come to hold political power, or the holders of political power should, by some divine appointment, become lovers of wisdom.

—PLATO

CORRESPONDENCE

PSYCHIATRISTS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: Most APA members are now in private practice. This gives them so good an income, that they are unable to devote time to unpaid, or modestly paid community services in clinics, public hospitals, guidance centers and the like. Most psychiatrists received part or all of their graduate education with an assist from the community in the form of in-service training in public or community-financed facilities. There is, one would think, something owed to the community in return for this.

Almost every public hospital, community clinic, or similar installation is desperately understaffed. Most of them cannot afford fees that compete with private practice. Not enough private practitioners recognize the moral obligation to serve the community that has been so good to them. If they work for \$10 an hour in a community clinic or public hospital, they are—in effect—donating \$15 of their valuable time for each such hour, since they can earn that much more in private practice.

But where does the average (\$80 a week) American get psychiatric care? He can hardly pay \$50 a week for private psychiatric attention. In other branches of medicine, Blue Shield or another insurance might pay the bills; or he can go to a public clinic. But Blue Shield does not, as a rule, pay standard psychiatric fees; and the community clinic is no solution if the better-trained psychiatrists turn up their noses at serving in them.

And what happens to the doctor-patient relationship if the private psychiatrist commits his patient to a public hospital? Will the private psychiatrist visit the institution, see the patient, attend staff meetings about him, make therapeutic suggestions, and show any interest in his previously paying patient? No—he cannot afford the time.

The private practitioner will not serve Americans in public hospitals or community

clinics; but he will fight vigorously against other therapists who *are* willing to render this service: psychologists, clergymen, psychiatric social workers, and so on.

Somehow, some one must be bold enough to call attention to the need for psychiatric manpower in community clinics and public hospitals. Perhaps the Examining Boards of the APA might do something along the lines of the plans developed by county medical societies for providing round-the-clock medical care. Specifically, the Boards might require (as a condition of retaining the diploma) and the APA might require, as a condition of continued membership, that the unretired psychiatrist devote a small, but specific proportion of his time to unpaid or modestly-paid community service. It is unlikely that any practitioner's living standard will be seriously lowered by such service. Organized psychiatry must somehow come to grips with this problem or shrug its shoulders and (to mix my metaphors badly) say: "Let them eat cake."

Only a small proportion of psychiatrists are now in community clinics and public hospitals. Those who cannot afford private care are piled on to the shoulders of the few doctors willing to work in such installations—and their loads are increasing to the point where they cannot give first grade service; or where they too, no matter what their ideals, are being driven out of this into greener-backed pastures of private practice—thus making the problem even more desperate.

The solution of this lies in the hands of our organized profession. We cannot forever accept a two-class society in terms of psychiatric care. Having private practitioners contribute some of their time to community enterprises is one possible way out. And surely the soaring mind of man is capable of thinking of other solutions.

Henry A. Davidson, M.D.,
Essex County Overbrook Hospital,
Cedar Grove, N. J.

PSYCHIATRY IN ARMENIA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: On September 22, 1962, being in Armenia at the invitation of the Armenian Academy of Science, I had occasion to visit the psychiatric institute in Yerevan the capitol of that country. I was very much astonished to find practically a miniature copy of our Illinois State Psychiatric Institute. The building was new, sturdily built, clean and well arranged. It had 160 beds divided into four services, one on each patient floor, each service having a chief psychiatrist and an assistant. One of these chief psychiatrists turned out to be Dr. Yasmadjian who was in St. Anne's Hospital in Paris at the time I studied there in 1925. The Institute has one psychiatrist for every 10 patients. It was interesting to find that the optimal patient load for a psychiatrist was the same in Yerevan as in

Chicago. The Institute had adequate laboratories—physiological, chemical and electronic, occupational therapy, activities therapy, group therapy, sleep therapy and psychotherapy of the behaviorist type. There were a number of medical students since this is the main psychiatric teaching hospital of the Yerevan Medical Institute. There was adequate nursing staff, aides, social workers and psychologists.

I was very much impressed with this institute and so was the Danish psychiatrist from Copenhagen, who was visiting there at the same time. I had no opportunity to visit the other mental institutions of the country but I was told that there was one trained psychiatrist to every 25 patients in those institutions.

Percival Bailey, M.D.,
Illinois State Psychiatric Institute,
Chicago, Ill.

PHENOTHIAZINES AND CARDIAC ARREST AFTER ECT

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: In the August 1962 issue of the *American Journal of Psychiatry* on page 178 there is an interesting case report by Sune Nystroem, M.L., about cardiac arrest after ECT.

I agree with Dr. Nystroem's concluding remark that closed heart massage may be life saving in such cases which, fortunately, are very rare.

I would like to draw attention to the following: phenothiazines are slowly excreted. A single dose can be found in the urine many days after the medication was given to a patient, as shown by Fred M. Forrest, *et al.* (*Am. J. Psychiat.*, 114: 932,

1958).

The autonomic nervous system effects of 25 mg. levomepromazine given at bed time to the 62-year-old patient, weighing only 47 kg, as reported, may have been potentiated by 250 mg. Evipan—Natrium I.V. and complicated by the stress of ECT the following morning.

In my opinion it is safer to discontinue phenothiazine at least two to four days (depending on the dose and the patient's condition), reserpine at least one week prior to administration of ECT.

Manfred Braun, M.D.,
VA Hospital (NP Service),
Bronx 68, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: The etiological aspects of cardiac arrest after ECT deserve attention because so much still remains obscure in that field. This is also valid for the importance of

phenothiazines as a causative factor. Therefore, when acceding to D. Braun's opinion, it is necessary to take some facts into consideration.

Conclusive proof of the significance of the phenothiazines in this respect would be

present if a higher mortality rate after electroplexy could be demonstrated in a patient group treated with phenothiazines than in a non-treated group. Such an investigation would not be too difficult, especially since some hospitals consistently avoid the combined treatment and consequently might supply the control group. However, it has not been possible to find a report of that kind.

The principle of own-control has been made use of by Kalinowsky (*Am. J. Psychiat.*, 112: 745, 1956), when finding that the number of deaths in connection with ECT rose after the introduction of the phenothiazines. A numerical record of this is, though, for natural reasons difficult to produce.

Another possibility of solving the problem set forth lies in an analysis of the limited number of published cases of death after electroplexy in patients receiving phenothiazines. Special characteristics might be found, indicating that the drugs in question have a particular effect in this context. The article of Barker and Baker (*J. Ment.*

Sci., 105: 339, 1959) is relevant here. Of 5 cases of ECT-death where the patient had not received phenothiazines 1 was considered to have died from left ventricular failure, 1 from myocardial syncope, coronary artery disease and emphysema, and 3 in other diseases. The 4 fatal cases that had got phenothiazines all died in cardiac failure (incl. shock). The material does not permit any conclusions but gives a hint of the possibility that the drugs used are prone to produce cardiac failure. Furthermore, we know from the pioneer report by Weiss (*Am. J. Psychiat.*, 111: 617, 1955) that chlorpromazine in combination with ECT gives a particularly strong fall in the blood pressure.

The examples just mentioned might serve as a support of the view that there are rational reasons for avoiding, as far as possible, the combination of ECT and phenothiazines.

Sune Nystroem, M.L.,
Psykiatriska Kliniken,
Sahlgrenska Sjukhuset,
Göteborg SV, Sweden.

THERAPEUTIC ABORTIONS

Three communications, two from New York and one from California, protested some points in the article "The Psychiatrist's Role in Therapeutic Abortion: The Unwitting Accomplice" by Dr. Sidney Bolter in the October issue of this *Journal*. The following Letter to the Editor is representative of the three:

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: I feel that the article by Dr. Sidney Bolter on therapeutic abortions should not go unanswered. No one can disagree with Dr. Bolter when he insists that psychiatrists should not break the law and that they should not be put in the position of stretching the letter and spirit of the law in recommending therapeutic abortions. Moreover, I find no point of disagreement in his interpretation of the proper recommendation in the two cases presented. However, when he jumps from these points to the conclusion "that with only a few exceptions, actually there is good biological,

psychological, and moral justification for the law as it stands," strong and insistent objections must be expressed.

A letter such as this is not the proper place to discuss the specific issues involved, but I feel that it should be unequivocally stated that there is no biological, psychological, or moral justification why a prospective mother's life need be endangered before the pregnancy can be legally terminated. In fact, considerable question can be raised as to the moral propriety of the state forcing a pregnant woman to continue with a pregnancy that may seriously endanger her health, that may be expected to result in an abnormal or deformed child, or that is even the result of rape.

Furthermore, there is no moral justification why the religious and moral views of any portion of the population should be imposed on the entire population unless the decency of society as a whole is threatened. The view that literally equates abortion

with murder is ludicrous, to say the least, when it is viewed with such seriousness that it should be imposed on all, as the law of the state. Such a viewpoint warrants due respect only if it is considered as the per-

sonal conviction and belief of an individual or group rather than as an established fact.

Robert L. Marcus, M.D.,
50 W. 96th St.,
New York, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Time and space make it impossible for me to answer the various comments which I have received, either directly or through your office, concerning my article on therapeutic abortion. There were many points which I made in this presentation and each could be the subject of long and interesting debate.

It appears to me, however, that the basic issue involves the need on the part of so many psychiatrists to play a part in changing the world. Psychiatry, although a long practiced art, is still an infant science, and I feel very strongly that we are in no position at our present stage of development to contribute significantly to the development of our legal institutions and to any changes in the laws of our country. As individual citizens, we can speak and make whatever contributions we feel are in keeping with our background, training, opinion, and personal desire, but I do not feel that we

have any right to stump the country, using poorly supported psychiatric concepts and get the public to believe that we are acting as a single body. The profession of psychiatry must concern itself, mainly, with the care of sick people and if individuals within the profession want to go further, that is entirely up to them.

Despite the very interesting and constructive comments concerning my paper, I still hold to the opinion that the psychiatrist has no special place in the making or changing of laws concerning therapeutic abortion. I still feel, too, that abortion is a form of murder but want to emphasize that this is not based on some religious teaching.

I am in the process of preparing a paper on the subject of sterilization and will try to combine this with answers to some of the arguments presented by my critics of the abortion paper.

Sidney Bolter, M.D.,
West End Clinic,
Detroit, Mich.

DIFFERENTIAL

Wer Wissenschaft und Kunst besitzt,
Hat auch Religion.
Wer jene beide nicht besitzt,
Der habe Religion!

—GOETHE

NEWS AND NOTES

DR. BARTON APPOINTED MEDICAL DIRECTOR OF THE AMERICAN PSYCHIATRIC ASSOCIATION.—President C. H. Hardin Branch has announced the appointment of Dr. Walter E. Barton to the position of Medical Director of the American Psychiatric Association. This appointment will take effect April 1, 1963.

Dr. Barton's previous experience especially qualifies him for this office. As Superintendent since 1945 of the Boston State Hospital and Associate Professor of Psychiatry at Boston University since 1952, as member of Council, for 4 years a member of the MHS Board of Consultants, and finally as President of the American Psychiatric Association 1961-62, he is familiar with the tasks that will await him in Washington. It is gratifying to know that he will be looking after the interests of the Association in this office.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION.—The 40th annual meeting of this Association will be held at the Shoreham and Sheraton Park Hotels, Washington, D. C., Mar. 6-9, 1963. This will be the Association's first meeting in the nation's capitol.

Thirty-five major sessions, 16 panels, and 33 workshops will be held during the meeting covering a wide variety of topics relating to mental health.

For information, write to: Dr. Marion F. Langer, American Orthopsychiatric Association, 1790 Broadway, Room 1313, New York 19, N. Y.

THE DELAWARE VALLEY PSYCHIATRIC RESIDENTS ASSOCIATION.—This Association, the first regional organization of psychiatric residents, was founded at The Institute of the Pennsylvania Hospital in May 1962.

In the Delaware Valley, there are 23 psychiatric training centers with openings for 300 residents; at present, there are approximately 150 residents in training, and all are eligible for membership in the Association.

The purpose of the Association is to improve communication and to facilitate the interchange of ideas among psychiatry residents in the Delaware Valley. To do this, the Association plans to 1) try to establish an information center to assemble and distribute information about events in psychiatry and related fields in the Philadelphia area; 2) afford opportunities for residents to meet one another, professionally and socially; 3) arrange lectures, panels, or paper presentations by known authorities or by the residents themselves; 4) serve as a liaison between the residents and other psychiatric organizations.

A *Calendar* of events is published monthly containing news items in psychiatry, psychology, sociology, anthropology, neurology, psychosomatic medicine, child and adolescent psychiatry.

The officers of the Association are a chairman, vice-chairman, and secretary-treasurer. An executive committee, composed of one representative from each training center, appointed by the residents at each center, assists the officers.

The initial meeting was held on Nov. 20, 1962 at The Institute of the Pennsylvania Hospital, when Dr. Kenneth Appel, Professor of Psychiatry at the University of Pennsylvania, addressed the Association.

Robert E. Jones, M.D.

DR. STUNKARD HEADS DEPT. OF PSYCHIATRY, UNIVERSITY OF PENNSYLVANIA.—Dr. Samuel Gurin, Dean of the School of Medicine, University of Pennsylvania, has announced the appointment of Dr. Albert J. Stunkard as Chairman of the Dept. of Psychiatry, succeeding Dr. Kenneth E. Appel who has retired. Dr. Stunkard has been a member of the faculty since 1957. He is a graduate of Yale University and the Columbia University College of Physicians and Surgeons, and has served as assistant professor of medicine at Cornell University Medical College. In 1960 he won the Hofheimer Prize awarded annually by the APA for research.

ANALYTICAL PSYCHOLOGY FOR CLINICIANS.

—University of California Extension announces its third residential workshop on "Introduction to Analytical Psychology for Clinicians," July 7-19, 1963. Applicants are required to have an M.D., Ph.D. or the equivalent.

The staff consists of Bruno Klopfer, Ph.D. (Coordinator), John Perry, M.D., Marvin Spiegelman, Ph.D., and Max Zeller, D.Jur.

The fee is \$75.00. A few tuition scholarships of \$30.00 are available. For information write to: Dept. of Social Sciences, University Extension, Univ. of California, Los Angeles 24, Calif. Applications must be received by May 15, 1963.

THE HOMEWOOD SANITARIUM, GUELPH, ONT.—Dr. A. L. MacKinnon, medical superintendent of Homewood Sanitarium in Guelph since 1951, retired Oct. 1, 1962

after 37 years' service to the institution. Dr. Glenn S. Burton, assistant medical superintendent since 1951, succeeds Dr. MacKinnon, while Dr. Merville O. Vincent, who joined the medical staff two years ago, has been appointed assistant medical superintendent.

FIFTEENTH ANNUAL INSTITUTE OF PSYCHIATRY AND NEUROLOGY.—The Institute

will be presented Feb. 28-Mar. 1, 1963, at the North Little Rock Division of the V. A. Hospital, Little Rock, Arkansas. Workshops in psychology, social work, and nursing will be conducted Feb. 27, 1963. Participants will be: Dr. Silvano Arieti; Dr. C. H. Hardin Branch; Dr. Hans S. Falck; Dr. Ian Gregory; Dr. James A. Knight; Dr. Hugh Mullan; Dr. Victor C. Raimy; Dr. Howard P. Rome; Dr. A. L. Sahs; and Miss Jane Schmahl.

BOOK REVIEWS

TEACHING OF PSYCHIATRY AND MENTAL HEALTH. (Geneva: World Health Organization, 1961, pp. 186. \$2.00.)

The introduction states "A WHO Expert Committee on Mental Health met in Geneva in May 1960 to discuss the undergraduate teaching of psychiatry and mental health promotion." This book represents some of the revised papers read at the meeting.

In the opening chapter Dr. E. E. Krapf, Chief Medical Officer, Mental Health, WHO, makes some interesting comments as to how the teaching of psychiatry has developed, but without linking up the development to any particular country.

Dr. Eugene S. Turrell, Professor of Psychiatry, Marquette University, Milwaukee, Wis., in a chapter "On Becoming A Physician," makes three fundamental theses: 1. The teaching of dynamic and psychotherapeutic psychiatry requires exploration of the unconscious mind, which will, in turn, result in self-evaluation by the student. 2. Such self-evaluation may be a painful process, because it requires scrutiny not only of affects and conflicts associated with becoming a physician but also of unconscious factors of motivation in the wish to study medicine. 3. Resistances to learning dynamic psychiatry may develop as a defense against undergoing this painful self-evaluation. These difficulties may in part be due to the fundamental reactions associated with the process of becoming a physician. With a rather broad list of references, it is of interest that the author omits any reference to Jung's work on the unconscious.

The third chapter, "Perspectives in the Teaching of Psychiatry," by Dr. Tsung-yi Lin, Professor of Psychiatry, National Taiwan University, Taipei, is much the longest chapter (33 pages). It is a most excellent and extremely broad discussion of the subject. Dr. Lin quotes from authorities all over the world and gives examples of the way the teaching of psychiatry has developed in a number of medical schools.

Dr. Ignacio Matte-Blanco, Professor of Psychiatry, University of Chile, discusses the important relationships in personality development and many of the tragic results that follow from some of the severe mistakes of our most advanced medical centers in handling medical and surgical patients. He quotes one pathetic example of small children ad-

mitted for operation, "left in a waiting room, separated from their mothers or any mother image, immersed in deep sorrow and anxiety, crying for their mothers, unheeded and alone. And how frequently is such a procedure justified by saying that children soon 'get adapted,' when in reality, as any psychiatrist can see, what really happens is that their distress reaches the point at which they are no longer able to express it audibly. This can fairly frequently be observed in centres where the 'physical' standards are extremely high, and it obviously is the result of an appalling lack of psychiatric education. For this reason it seems of high importance to formulate clearly the type of psychiatric and psychological training needed by the general physician."

Dr. T. Ferguson Rodger, Professor of Psychological Medicine, University of Glasgow, in "The Place of Psychiatry in the Medical Curriculum: A British Viewpoint," points out that medicine in Britain emphasises a personal and humanistic point of view, so much so that this has led to criticism that British medical education turns out good practitioners but poor scientists. He feels that this has caused the Scottish physician to assume the role played in America by the psychiatrist, such as discussing with patients why they are reluctant to undergo operations. He then speaks of what is and what should be taught as psychiatry, indicating that Scotland has already developed physicians in all branches of medicine who look upon the patient as an individual and who have acquired some of the knowledge which the American psychiatrist is trying to instill in the American physician.

The chapter, "The Role of Neurologic Studies in the Teaching of Psychiatry" is written by Mortimer Ostow, M.D., Associate in Psychiatry, Montefiore Hospital, New York City. He believes that comparative neurology is an important study for the psychiatrist in order for him to understand comparative behavior. He discusses certain changes that occur with specific brain lesions, *e.g.*, a feeling of depersonalization accompanying a temporal lobe seizure; a special type of visual hallucination occurring in a toxic delirium. He points out that "some of the behavioral consequences of organic brain lesions represent, not the direct consequences of neural dysfunction but rather defensive manoeuvres of the primitive nucleus of the ego." He warns against the tendency to overinterpret neurological data.

A chapter, "The Teaching of Medical Psychology and Sociology," by Dr. S. Lebovici, consultant physician to the hospitals of Paris, contains an interesting discussion as to how much and what type of psychology should be taught to medical students. He speaks of both social psychology and cultural anthropology and quotes opinions of a number of writers from different countries.

Jean Stoetzel, Professor of Social Psychology at the Sorbonne, offers "Observations on the Social Character of Mental Disorder." He discusses the social nature of mental diseases, the social status of mental patients, and the social character of psychiatric treatment. He ends with a carefully worked out annex, "proposed programme for the teaching of social psychology to students of psychiatry" to be given to all 4-year medical schools.

"An International Survey of the Teaching of Psychiatry and Mental Health," prepared by the Mental Health Unit, WHO, is a tabulation of the responses to a questionnaire sent to a large number of medical schools all over the world. It contains considerable valuable statistical material.

In the chapter on "The Teaching of Psychiatry in the USSR," Dr. O. V. Kerbikov, Head of the Department of Psychiatry of the Second Moscow Medical Institute, pays tribute to Pavlov's teachings, and attempts to outline some essential and fruitful tasks connected with the teaching of psychiatry: 1. So to organize the teaching that when the general practitioner graduates from the medical faculty he is not only acquainted with the main lines of major psychiatry but can also find his bearings in the complex subject of minor psychiatry. 2. To give students not only knowledge of the foundations of clinical observation and treatment of mental patients but also an acquaintance with the main aspects of modern laboratory and experimental methods of examining patients and the more important methods of scientific research (electroencephalography, conditioned reflex methods, and biochemical and psychological techniques). 3. So to organize the teaching of psychiatry that the student surmounts the obstacle of the fragmentation of medical knowledge due to the narrow specialization of the clinical disciplines in such a way that psychiatry takes on for him the importance of widening his general medical outlook and in the full sense of the word crowns his education as a physician.

A chapter on "The Teaching of Psychiatry in Africa," is by Dr. T. Adeoye Lambo, M.R.C.P. (Ed.), D.P.M., Psychiatric Special-

ist Western Region Government, Nigeria. Dr. Lambo goes into a fairly specific discussion not only as to how psychiatry is being taught in Africa, but how he feels it should be done ideally. In general, he tries to draw from European and American experience, but feels that the cultural factors in Nigeria may cause some difference in the method of teaching.

The last chapter, "The Teaching of Psychiatry: A Swiss Viewpoint," is written by Dr. M. Bleuler, Professor of Psychiatry, University of Zurich. This chapter is a very careful discussion of the historical development of psychiatry at the University of Zurich and of the present method of instruction. One gets from this chapter a good deal of Bleuler's personal feelings and attitudes toward the teaching of psychiatry, which makes it most excellent reading.

Since the chapters vary so greatly in what aspects of psychiatric teaching are discussed, it is impossible to compare the contributions. All are interesting and valuable and the reviewer recommends the book to all those who are interested in increasing and broadening their knowledge of the teaching of psychiatry throughout the world.

K. M. B.

PROGRAMME DEVELOPMENT IN THE MENTAL HEALTH FIELD. Tenth Report of the Expert Committee on Mental Health, World Health Organization Technical Report Series Number 223. (Geneva, Switzerland: World Health Organization, 1961, pp. 55. \$60.)

This Tenth Report of the Expert Committee on Mental Health is made 12 years after the first which appeared in 1949. Its preparation followed a not unusual pattern in the World Health Organization, that of requesting a series of working papers from authorities in one or another facet of the problem being studied, the distribution of these to and their study by the members of the Expert Committee who then met for some days of discussion and for the formulation of the report itself. The Committee had nine members and was chaired by Dr. Robert Felix, of the United States of America. Dr. A. V. Snezhnevsky of the Union of Soviet Socialist Republics was the vice-chairman. All members were selected as individuals rather than representatives of countries, but their origins are of interest; Switzerland, United Kingdom, Australia, Germany, South Africa, Costa Rica, and Egypt were the countries in addition to those of the chairmen. All members of the group were psychiatrists except a nurse-

matron of a hospital, a professor of hygiene and social hygiene, and a public health administrator.

As might be expected, reports prepared in this manner have the character of a declaration: "These truths we hold to be self-evident." Their purpose is education and stimulation, the codification of what is known and stimulation to recognize areas where work needs to be done. Thus this Tenth Report contains the germs of most of the ideas needed to teach a course in the administration of mental health programs, including most of the many unresolved problems in that field. The outline for much of what has become known as social psychiatry is clearly here as is a pertinent and well-organized discussion of the research needs and opportunities in the mental health field. It is very doubtful that these aspects are presented anywhere as completely as they are in this 55-page pamphlet. If it filled no other purpose, it would be a very effective teaching aid for courses in community psychiatry.

In contrast to the report of the United States Joint Commission of Health and Mental Health, this document takes the position that mental illnesses are illnesses to be dealt with as are other diseases. Recognizing that this philosophy underlines programs for mental health in most of the world, the document is often concerned with the administration of total health programs and the relations of the various phases of such programs, including mental health, maternal and child health, communicable diseases, *etc.*, to each other.

The report begins with a review of trends in mental health from 1949 to 1960. In 1949, the group concluded that the task of achieving a reasonable level of treatment of psychiatric patients in the world was impossible and that hope would perforce have to be placed in preventive efforts and the acceptance of responsibility by public health authorities for mental health work. This is still an active goal and some progress is seen in the training of health workers for the expanded task. The need for specialized mental health workers has been given extensive attention by the World Health Organization with three reports and a number of conferences having been devoted to various aspects of training. Considerable expansion of research is noted in the 12 years but the subject is again heavily stressed in the 1961 report.

The hard decision that many presently neglected patients will have to remain neglected in favor of more active treatment of fresh cases is reluctantly reached. New organizational methods are needed, with a central leader-

ship for planning and operation being given high priority, though training programs must come first in order to have staff available for the planning.

The administrative organization should have as its aim the whole gamut of needed services, preventive-educational to the general public, outpatient care opportunities, general hospital care of the psychiatrically ill, part-time hospitalization and full psychiatric hospital care as well as follow-up services. The "mental health unit" combining staffs for all these types of services at relatively local levels is proposed. Such units will make for efficiency in the use of personnel in service and for training of medical and non-medical specialists, and to expand the scope of personnel who are not specialists so that mental health objectives can be included in their work. The mobilization of community "caretakers" and "gate keepers" is carefully considered; of the latter group, employers and union leaders are given most important place.

The operation of a system of services with 24-hour-a-day hospitalization, a relatively small part of the total mental health program, is envisaged as requiring the collaboration of a team of workers. These will vary in the proportion of time devoted to or available for mental health concerns. Since such a group will require effective leadership to accomplish the work planned for it, the report considers at some length the qualities and training necessary in the leader and in those who are to follow his leadership in the planning and operation of the program. Universally recognized as an obligatory requirement for any complex program operation, few papers face the issue as squarely as is done here.

The final expository section is on research. It is a competent and comprehensive review, stressing ecological and epidemiological methodologies as is appropriate to the philosophy of the report. The possible roles of the World Health Organization in the promotion of mental health programs is discussed in the closing pages.

This is a document of high quality. For many it will expand the horizons of what psychiatry in the service of a total population is likely to become. Those familiar with social psychiatry will find it a very convenient presentation of the concepts in the field, useful as a guide in planning anywhere in the world, and a convenient guide for teaching.

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EARLY VICTORIAN PSYCHIATRY, 1805-1905. By C. R. D. Brothers, M.D. (Melbourne : Government Publication, 1962, pp. 254, illus.)

Dr. Brothers is Chairman, Mental Hygiene Authority, State of Victoria, Australia. After completing his Beattie-Smith Lectures on the history of Victorian psychiatry in 1957 he was requested by his colleagues to elaborate at book length this vast material that he had given in abbreviated form in his lectures. This book is the result and constitutes the first detailed account between two covers of the management of mental cases from the early days of the colony to the close of the 19th century. As in pioneer times elsewhere, there was no provision of any kind for mental cases except in jails or lock-ups as they were called. Prisoners were detailed to care for the patients and for this service were given time off from their sentences.

In 1840 when "the first real gaol was erected" some distinction was made between criminals and the insane, a small "lunacy ward" being provided for the latter. The violent cases had to be sent to Sidney, Tasmania, for care. The institution here and the Tasmanian asylum at New Norfolk were the only asylums for insane in the continent of Australia.

From here on Dr. Brothers gives a detailed account of the succession of institutions and other services developed in the State of Victoria, together with a roster of institution physicians and some account of their lives and work.

A special feature of this book is the rich collection of illustrations, some 75, including photographs of the medical officers during the period covered, maps, views of buildings, plans and interiors, grounds and activities, and copies of documents. The extraordinary amount of data here gathered together will make this volume especially valuable for reference.

In order that the modern period may not be overlooked the author has provided an addendum (9 pages) containing a concise chronological summary of developments from 1905 to 1952.

C. B. F.

MENTAL HEALTH TEACHING IN SCHOOLS OF PUBLIC HEALTH. Edited by Elaine Cohen. (New York : Columbia University, School of Public Health and Administrative Medicine).

This report is based on the work of six pre-Conference Committees and a National Conference held in 1959, sponsored by the Association of Schools of Public Health and

financed by a Grant (2M 9141) from the National Institute of Mental Health.

From the prefatory statement that "This overall review came about because it seemed timely to provide the school faculties, curriculum committees and administrators with an updated base from which to make judgments as to necessary changes in faculty, curriculum content and time, teaching opportunities and methods," one might infer that the objective was to obtain uniformity—however stultifying to both life and learning—of both content and method. Indeed, content and method, including audio-visual helps, and times allocated and academic credits, are set out in detail. Hazards to which students are subjected by the courses are also mentioned. But in the last chapter we come back to something seemingly more reasonable: "There are relatively few firm guide lines to enable an assessment of the general state of development of community mental health work. The entire field is in a state of flux in all of its aspects. However, despite the many seeming 'irreconcilables' and 'insolubles,' considerable headway was made by the conferees toward clarification; it was possible to achieve some consensus in terms of functions and training objectives, teaching methods, and general curriculum content, as well as to identify areas of major dissent." The headway is not apparent to this reviewer. All he can say is that, in his opinion, if anyone engaged in public health instruction can derive any help or guidance from this volume, apart from the opening chapter, that person must be so sorely in need of help that it would be well, for the sake of the public health, to change his vocation.

But the first chapter, "Public Health and Mental Health: Converging Trends and Emerging Issues," by Dr. George Rosen, is a masterly review and analysis which should be available to, and read by, all students and staff in all schools of public health.

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INTERNATIONALE ABORTSITUATION, ABORTBE-
KAEMPFUNG UND ANTIKONZEPTION. K. -H.
Mhelan (Editor). (Leipzig : Georg Thieme,
1961, pp. 280, D.M.23.30.)

The proceedings of the International Conference on Abortion and Birth Control held at Rostock from May 5 to 7, 1960. A most valuable and informative series of papers and discussions.

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DER VERLAUF DER SCHIZOPHRENEN UND DER SCHIZOPHRENIFORMEN PSYCHOSEN (The Course of Schizophrenic and Schizophreniform Psychoses). By K. A. Achté. (*Acta Psychiatrica et Neurologica Scandinavica*, Supplementum 155, Vol. 36, 1961. Copenhagen : Ejnar Munksgaard, 1961, pp. 273.)

The author worked three years on this monograph which he undertook on the request and under the continuous encouragement of his chief, Professor Kaila, the director of the Psychiatric University Clinic in Helsinki, Finland. The monograph like several others in this series is written in German. However, an English summary of 26 pages makes it accessible to every interested Anglo-American reader.

Dr. Achté worked on two groups of patients: one admitted to Prof. Kaila's Clinic 1933-35, and another one admitted there 1953-55. He studied the case records, examined a great number of patients personally and presents follow-ups of at least 4 years, some of some 20 years. The materials were divided into "typical schizophrenias" and "schizophreniform psychoses." There was a small "intermediate group" which may be disregarded here as well as a few "mixed cases."

In the schizophrenia group, the earlier patients (1933-35) appear in general to have been more severely ill than the more recent ones (1953-55). Catatonic symptoms seem to "have become less frequent," while the "hebephrenic type . . . has shown a certain increase." A number of patients diagnosed as schizophreniform "developed typical schizophrenia over a follow-up of 4 years." This happened considerably less frequently in the more recent than in the earlier group.

The author found that "changes in clinical type were . . . relatively infrequent." He emphasizes the almost ubiquitous appearance of paranoid ideas, especially ideas of reference, "in the initial stage of the psychosis regardless of the later development of the clinical picture."

The author relates that in 1939 and 1959, respectively, 24% of the earlier, and 39% of the more recent patients "were fully recovered." That means a remarkable change of the prognosis which seems most unfavorable in the hebephrenics. (The author includes the simplex patients in the hebephrenics.) The "catatonic patients either recovered fully or did not recover at all." The prognosis of the paranoids "was not essentially different."

Dr. Achté is cautiously discussing many factors which took the former curse off schizophrenia. The hospital is more "cosy"; the

patients are no longer afraid of mental hospitals nor of psychiatrists; the human relations between physician and patient have undergone incisive alterations; early treatment—including the treatment of per se benign cases—plays its role. Despite his predominantly optimistic attitude referring to "the patients who had displayed a typically schizophrenic disease when in hospital," the author avers that "no more than one-tenth of them made full recovery." He goes on to say: "It can accordingly be concluded that typical schizophrenia is rarely cured even by the methods which are in use in our clinic today."

This is a very good, thoroughly solid piece of work for which the author and his chief, Professor Kaila, must be commended and congratulated. The monograph demonstrates that clinical psychiatry is alive and dynamic in its own right.

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CHILDHOOD SCHIZOPHRENIA. By William Goldfarb, M.D. (The Commonwealth Fund. Cambridge, Mass.: Harvard University Press, 1961, pp. 216. \$4.50.)

This eagerly awaited report by William Goldfarb, M.D., from the Henry Ittleson Center for Child Research comes to us in the form of a beautifully compact biometric study. It is a five-year accumulation of physical, behavioral and familial data on 26 disturbed children, 6-11 years old, rejected from normal schooling and compared with 26 matched normal children from a public school.

There is a foreword by Herschel Alt and an introduction by David M. Levy, M.D. There is also a chapter on The Schizophrenic Subclusters: Factors Approach, by Irving Lorge, Ph.D.

The summary and concluding chapter is concerned with two schizophrenic subgroups in childhood, an organic and a non-organic. The sicker non-organic subgroup is said to be produced by an abnormal condition in the rearing environment, characterized by parental perplexity. The "organic" children were noted to have neurophysiological deficits. However, the etiology of the organic factors in these children or of the perplexity in their parents is not defined.

From the extensive battery of tests and appraisals it is suggested that only "receptor intolerance" is fairly typical of schizophrenia. The schizophrenic children show a tendency to exclude distance receptor stimuli, that is, the visual and auditory, while accepting prox-

imal sensory or touch experiences, and this contributes to the confusion regarding time, space, person and body image. This reviewer finds that this, indeed, is an original contribution. It may still be necessary to make comparable studies on other non-schizophrenic brain-damaged children to determine the specificity of this response in schizophrenia. Even if this mode of behavior is observable in other children with developmental problems, these observations are an important scientific contribution.

Schizophrenia is described as "merely a label indicating that the child deviates dramatically from the normal in ego functioning . . ." Furthermore, this group of 26 children was selected not because of any definable schizophrenic features but because of certain social factors (too disturbed for regular public school, belonging to a certain family structure, *etc.*) and the absence of gross bodily defects. Consequently the conclusion that the term schizophrenia in childhood is only an umbrella under which multiple disorders are being lumped has to be questioned.

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CURRENT PSYCHIATRIC THERAPIES. VOL. 1. Ed. by Jules H. Masserman. (New York: Grune & Stratton, 1961, pp. 246.)

This is the first volume of a series which aims to cover annual summaries of current advances in therapy, special articles on particular therapies, condensations of papers from professional meetings and editorial reviews of special advances. The 40 contributors to this maiden collection are all from the U. S. A., except for 2 from Austria and 3 from Montreal, Canada.

Part I, Preventive Psychiatry, describes campus psychiatry at Cleveland, a suicide prevention centre at Los Angeles and the community extension service at the Massachusetts Mental Health Center in Boston. Part II, Child and Adolescent Psychiatry, contains a review of the present status of child psychiatry, notes on the management of acute conversion reactions and scrupulosity, and a description of an adolescent treatment centre in Utah. Part III, Psychophysical Methods, has a review of the chemical and electrical therapies, the Montreal treatment by verbal repetitive signalling, and a note on the clinical management of depression. Part IV, Psychoanalysis, presents two papers on medical education and psychiatric practice. Part V, Couples and Groups, discusses simultaneous psychotherapy of mar-

ried couples, also the integration of group therapy with individual psychoanalysis. Advances in group therapy and military psychiatry are noted. Part VI, Clinic, Institution and Community, includes descriptions of dynamic psychotherapy in the Massachusetts General Hospital Psychiatric Clinic, intensive therapy of psychoses in the Vienna University Hospital, and feigned insanity by prisoners. Modern concepts of hospital therapy are outlined and Maxwell Jones discusses community aspects of hospital treatment. In Part VII, Aftercare Programmes, family care and community aftercare services are described. In Part VIII the editor reviews anxiety and the art of healing, pointing us to the ideal of a holy physician.

It probably is too early to judge the usefulness of this series as an addition to existing annuals. My impression of a scrappy unevenness and extended diversity will remain until the next volume shows its wares.

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AN APPROACH TO EDUCATION OF PSYCHIATRIC NURSING PERSONNEL. By Garland K. Lewis, Marguerite J. Holmes, and Fred E. Katz. (1961, pp. 124. \$2.00.)

The authors have presented a report of the seminar project for teachers of psychiatric aides which was conducted as a pilot project in four Southern states from April 1958 to September 1960. The overall purposes of this project were the improvement of the care of the mentally ill and the investigation and demonstration of a method of short term clinically-centred seminars for improving competency of nurses responsible for supervision and inservice education of psychiatric aides.

The National League for Nursing and the American Psychiatric Association sponsored the project and the funds were provided by the Community Services Branch, National Institute of Mental Health, U. S. Department of Health, Education and Welfare. All psychiatric hospitals and general hospitals with psychiatric units in these states were invited to participate. Twenty-five institutions responded and planned for 168 of their professional nurses to attend the seminars; an additional 7 nurses from institutions or organizations attended as students. Eighteen 10-day seminars were held: 3 in Arkansas, 9 in North Carolina, 4 in South Carolina and 2 in Louisiana. In the 25 institutions participating over 32,000 patients were being cared for by 5,366 nursing personnel. The 10 state hospitals selected had a patient

population of 26,000, with nursing staff of approximately 300 professional nurses and 3,400 practical nurses and aides. The aim was directed to the care of the 32,000 patients through the 175 seminar students and indirectly through the 5,000 nurses and aides. Particularly within the state hospitals taking part in the project, the impact of this programme would be very great—a method of dissemination of knowledge to a large group of personnel, and the continuing effect of the students putting into practice the principles of psychiatric nursing as taught to them.

The well-developed plan for this project, the philosophy, the purposes, the objectives, and the methods devised to carry it out are indications of how the director of the project and her staff were able to bring it to successful conclusion.

The plan as originally set up, 18 seminars of 2-week duration, enabled over one-fourth of the registered nurses in the participating hospitals to attend. This in itself merits the attention of all those responsible for care of the mentally ill, with the hope that they will have a similar project in their district. The value of this type of teaching could not be adjudged immediately but could help us to attain far-reaching goals. The outcome of this project has demonstrated that it was a successful method, irrespective of the diversity of the group of students in each seminar group as to positions held and the variation of preparations of the individual student. The nursing care of mentally ill patients, the main theme of the seminars, was the central concern of each student.

This excellent report is well presented, and the detail given takes the reader through the project with clarifying descriptions of the learning experiences as planned and the outcome as the student progresses. These learning experiences were the care of one patient, interaction notes, individual conferences, group conferences, assigned reading and a film. The 35 hours of the student's time with one patient was the central learning experience through which she had an opportunity to develop her observation, communication and nurse-patient interaction, assisted by the individual supervision of a skilled instructor. How this was accomplished is discussed objectively and with great clarity in the report.

A follow-up study was done during the final year of the seminar project by a sociologist. This report includes considerable data regarding procedure used as well as some information garnered from the extensive inter-

views conducted during the follow-up study.

This report will be stimulating reading for both nursing educators and nursing service personnel of all psychiatric facilities. To my knowledge, it is the first time that an attempt has been made to improve the nursing care of the mentally ill so extensively. As the material is presented, it can be used as a guide to conduct other similar seminar projects.

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THE UNCONSCIOUS BEFORE FREUD. By Lancelot Law Whyte. (New York: Basic Books, 1960, XII + pp. 219. \$4.50.)

A Frenchman is said to have said that there is much that is new in psychoanalysis and much that is good; but the good is not new and the new is not good. The story of the unconscious component of that peculiar function that, as Ring Lardner put it, "we laughingly call our mind" was not a new one when Freud took it up.

The author of this book has been pondering this subject for quite a long time, at least back to the years following World War I, "when psychoanalysis was a novelty and I innocently imagined that Freud had just discovered the unconscious mind." Over the years the author's perspective changed as he considered the course of European thought during 200 years before Freud. Hence this book. It is simply a striking confirmation of what is, or ought to be, a truism: "Historical understanding can throw light on current problems." What's past is prologue. Mr. Whyte surveys a considerable range of thought and speculation about conscious, unconscious, and self awareness from ancient times on and quotes appreciatively from Margetts: "Almost since the dawn of civilization man has had an inkling of understanding that mind activity outside of our waking consciousness does exist."¹

From the 13th century a quotation from Thomas Aquinas is apposite: "I do not observe my soul apart from its acts. There are thus processes in the soul of which we are not immediately aware." The author cites references from writers down the centuries, philosophers, theologians, dramatists, physicians, *et al.*, enough to convince any unbeliever that the mind has its sub basements like a skyscraper, but it remained for Freud to supply the social register of the creatures that inhabit there.

C. B. F.

¹ Psychiat. Quart., 27 : 115, 1953.

IN MEMORIAM

HARRY A. STECKEL, M.D. (1886-1962)

Doctor Harry A. Steckel died suddenly on the morning of July 13, 1962. He was shaving in preparation for a full day of appointments. That probably would have been the way Harry would have wished it. He often said he never would retire. That was the pattern of his interest which prevailed throughout his 52-year service in psychiatry.

He was born December 13, 1886 in Catasauqua, Pennsylvania. His parents were Jacob Harry Steckel and Martha Bartholomew Steckel.

Harry Steckel was earnest, honest, ambitious, driving, in the cause he always held close to him, the welfare of the mentally ill. He worked, he wrote, he taught in their behalf. This was expressed in a life full of accomplishment in this field.

He was graduated from the University of Pennsylvania Medical School with an M.D. degree in 1910. After a general hospital internship and residencies in state hospitals in New Jersey and Iowa, he entered the New York State service at Kings Park State Hospital in 1912. From thence he continued through the grades to the superintendency of the Newark State School. Within a year he was called to the professorship of psychiatry at Syracuse University Medical School and to become the first director of the then Syracuse Psychopathic Hospital in 1930.

His civil career was interrupted by an interval in the military service in World War I. In February 1918 he opened the first ward for psychiatric patients for U. S. troops in France at Neuchateau. Subsequently he was made Division Psychiatrist of the 26th Division and remained in that post through all the engagements of the division to return with it to the U. S. In

May 1919 he left the service to return to his work in the state hospitals of New York. He continued in the army reserve and retired in 1935 as a full Colonel. He received the Congressional Medal of Merit in 1944.

In his psychiatric views which he expressed forcefully he was conservative and eclectic. He could be cryptical and sharp but not unkind. His qualities for leadership were evinced by the many presidencies he held. Besides teaching medical students and residents he lectured at Elmira College and Syracuse University. His published papers were numerous in the fields of mental hygiene, psychiatry and in national defense. He co-authored Chapter II, Volume X of *The Medical Department of the United States Army* published by the War Department.

In 1922 Dr. Steckel conducted a survey of prison populations in New York State for the National Committee for Mental Hygiene.

In 1929 he had served as Superintendent of the State School for Mental Defectives at Newark, New York.

In spite of an active public life his chief joy was his family. He married Carolyn E. Moon in 1919 and they saw their two children Elizabeth Ann and William Henry grow to maturity and marry. His family life was close and warm. After his daughter married and gave them grandchildren, it was his custom to drop in for a few moments call upon them each morning on his way to his office.

To his friends he was warm and likeable. To his subordinates he was firm, strict, but always loyal to their interests.

All in all he lived with high credit a full Christian life.

Eugene N. Boudreau, M.D.

PSYCHIATRY IN INDONESIA

NATHAN S. KLINE, M.D.¹

Indonesia is a country of 97,000,000 people with a total of 32 trained³ psychiatrists. Since the population of Indonesia is about half that of the United States a comparable figure for us would be 64 boarded psychiatrists in the entire country. There are an additional 10 psychiatrists practicing in the mental hospitals who are not regularly qualified and 8 residents in training at the University of Indonesia Department of Psychiatry.

All physicians are obligated by law to work for the government from 7 a.m. to 2 p.m. at the university or polyclinics but are free the rest of the time to conduct private practice. The only persons allowed full time private practice are those who have passed the retirement age for government service. The average monthly salary⁴ for psychiatrists is between 2000 and 3500 rupiah, which amounts to between \$22 and \$39 per month at the official tourist rate of exchange or roughly \$7 to \$13 per month on a free market basis. The superintendent of a hospital earns 4000 rupiah a month. The

monthly average income from private practice in Djakarta is approximately 15,000 rupiah (\$167 at the official tourist rate), so that it is economically mandatory that all physicians have a private practice. This system of working part of the day for the government and subsequently working for one's self can be designated as "2 p.m. Socialism." The 7 a.m. to 2 p.m. time spent at the polyclinics is usually shaded slightly at both ends and private practice starts as a rule about 4:30 p.m. and continues until 8 or 9 at night.

Despite the great paucity of psychiatrists the demand is even less so that most of those who are qualified as psychiatrists do general medicine in their private practice and only 3 or 4 physicians specialize primarily in psychiatry during their free hours.

*University of Indonesia.*⁵ At the University Psychiatric Clinic there are 64 beds for inpatients with a staff of 10 psychiatrists, 8 residents who serve for a 2-year period, 8 senior clerks, each rotating for 1 to 2 months, and 12 junior clerks rotating on the same basis.

Much of this excellent system was built up during the 5-year affiliation (which expired in 1961) with the California University Medical Center. The inpatients are all psychotics, and in this group somatic therapy is almost always used, although not exclusively. During the past 7 years the number of admissions ranged from 443 to 752 and discharges from 391 to 694, depending to a large extent on how much chlorpromazine and reserpine were available.

There was a drop in patients admitted and discharged in 1960 due to a sharp decrease in the availability of pharmaceuticals for treatment purposes. Most of the patients not discharged to the community either died or were passed on to the mental hospital at Grogol.

⁵ The buildings which house the major part of the school were originally an opium factory.

¹ Rockland State Hospital, Orangeburg, N. Y.

² Appreciation is expressed to Professor Slamet Iman Santoso, Dr. Kusumanto Setyonegoro and especially Dr. Kho Tjok Khing of the University of Indonesia for their warm hospitality.

Gratitude is also due to Dr. Salekan, Director of the Division of Mental Hygiene, Brigadier Satryo, Minister of Health, Mrs. Dr. Soebandrio and Professor Soedjorno D. Toestonegoro, President of the University, since without their sponsorship this report would not have been possible. The invariable courtesy and assistance make me regard many others, not individually named, as also among my friends.

³ Three years of specialization plus the writing of a thesis qualifies a physician for certification in psychiatry by the Board of Psychiatry, Neurology and Neurosurgery.

⁴ There is a cost-of-living bonus which presently amounts to approximately 100% of the salary.

A rupiah is worth about one cent at the official tourist rate. Attendants earn \$3 to \$6 a month. The illegal "free market" value of the rupiah is a third of the tourist rate, i.e., the attendant's salary is \$1 to \$3 a month.

An average of 40 (1000 per month) patients are seen per day at the university outpatient clinic during a 6-day working week. Of these approximately 10 each day are new patients.

About three-fourths of the psychotic patients seen at the outpatient clinic are not admitted either to the University Clinic or to the local mental hospital because both are already filled to capacity. When electroshock equipment and drugs are available patients are given ECT and psychopharmaceuticals. At times such patients are kept in the hospital from 7 in the morning until 6 at night, thus constituting a day hospital program out of necessity.

As a rule patients are seen about every 2 weeks over an average of 1 to 2 years. These figures do not include epileptics who are referred to the neurology clinic nor mentally deficient patients who, once diagnosed, are kept at home. The arteriosclerotics constitute about one-fiftieth of the admissions and organic psychotics in general are rare. There are some character disorders, usually 1 or 2 neurasthenics, 1 or 2 obsessive compulsives, 1 or 2 anxiety states, and the same number of involutional depressions in each 25 admissions. Two or 3 of the 10 new patients each week are schizophrenic. Pre-war about 25% of new patients were general paretics, but it is now hard to find any of the classical type of luetics in the new admissions.

In the mental hospitals and the clinics the number of Chinese, whether foreign or Indonesian born, is disproportionately great; the Chinese are more health conscious whereas the Indonesians tend to "protect their family name" and "explain away" illnesses or other disorders. Thus 40% of the inpatients at the clinic and 30% of the outpatients are Chinese in origin although the Chinese comprise only about 10% of the 3,500,000 persons in Djakarta.

Military Hospital. The Military Hospital has an inpatient facility of 60 beds and a twice-a-week outpatient clinic handling 20 patients each working day.

Division of Mental Hygiene. There are 7400 patients in 25 mental hospitals throughout the country staffed by a total of 32 psychiatrists (of whom 22 are qualified). The Department of Mental Hygiene does

not have outpatient facilities. Treatment is almost entirely custodial with less than 5% of all patients on active somatic treatment or psychotherapy.⁶

I was able to visit five major mental hospitals in Indonesia: 1. Sumber Porong which is at Lawang and has 2000 patients (pre-war 4000 patients); 2. Bogor which is located outside of Bogor and has a capacity of 1200 patients (pre-war 3000 patients); 3. Kranat which is at Magelang with 1100 patients (pre-war 2000 patients); 4. Grogol at the outskirts of Djakarta with a capacity of 400 patients; and 5. Bangli which is on Bali with a capacity of 150 patients plus an additional 100 beds under construction. The drop in patient population from pre-war was necessitated in part by the reduction in professional personnel, since of the 18 Dutch psychiatrists who were evicted at the time of independence 12 had been working in the mental hospitals. Another factor is that the mental hospitals were greatly overcrowded and since their reorganization they have not taken more patients than they could adequately handle. The most important factor, however, is probably budgetary limitations since some of the hospitals have empty beds, but no way of providing food and services for patients who could be admitted.

Grogol Hospital. Grogol Hospital, named for the river that passes in front of it, is located some 10 kl. from the center of Djakarta. Of the 400 beds only 300 are presently in use; 200 for males and 100 for females. The hospital occupancy is 25% below capacity because money is not available for food, clothing, drugs, water, electricity, transportation and other upkeep. The admission rate is 100 patients per year with approximately the same discharge rate. The total yearly hospital budget exclusive of salaries is 1.4 million rupiah (\$14,000 at the official tourist rate and roughly \$5000 at the free rate). The staff consists of a director and 4 physicians, all of whom are general practitioners. There are 30 nurses plus 70 other personnel including attendants. In the past year 7 patients had been given insulin and 14 patients a combina-

⁶ The total budget for the management of mental hospitals is 50 million rupiah a year.

tion of chlorpromazine and reserpine (with drugs supplied by the family). Eighty percent of the patients are schizophrenic and another 10% are epileptic. About 50 patients are given ECT 3 times a week. Since there are no electroshock machines, convulsions are produced by placing electrodes on either side of the head and then plugging into a wall circuit and pulling out again. According to the director the biggest problem is the lack of aftercare which results in an extremely high relapse rate. Since the family of the patient must provide his medications which are quite expensive they are almost invariably discontinued when the patient leaves the hospital. Also pre-war there was some system of paying the family to help take care of the patient if he was well enough to leave the hospital although not well enough to work, but since this is no longer done the families are not anxious to have patients return home, and they tend to become stockpiled at the hospital. Approximately 20% of the families do pay toward the cost of the patient care but this averages 17½ rupiah (20¢) per day.

Bogor Hospital. Bogor Hospital, built in 1882, now has a capacity of 1200 with 580 male and 550 female patients in residence. There are an average of 400 yearly admissions and discharges. The staff consists of 5 doctors (of whom 3 are psychiatrists), 250 male nurses and 250 female nurses. There are different classes of patients in the hospital and 10% pay something toward their upkeep. Fourth class patients when they can afford it are supposed to pay 12½ rupiah per day and first class patients 37 rupiah. The actual cost is 10 rupiah per day for food and 30 rupiah per day for total maintenance exclusive of the medical care. Occupational therapy is the main type of treatment. EST is given twice a week to 37 of the 550 female patients and 3 times a week to 30 of the 580 male patients (the difference is due to the decision of the doctor running the service). Occasionally Cardiazol is used, but insulin is too expensive. Chlorpromazine is used at times when it can be supplied by the family since the hospital cannot afford to provide it. The cost is 2.75 rupiah for a 25 mg. tablet and occasionally 10 tablets will be given 6 times a day (*i.e.*, 1500 mg.), but such dosage

which costs the family \$1.83 per day extra is extremely rare. As will be noted later the only size chlorpromazine tablet available in all of Indonesia is the 25 mg. size. In view of the cost the family frequently tries to bargain with the hospital physician, urging him to use as few tablets as possible. The hospital is completely "open" with patients free to come and go as they choose and without locked wards. An average of perhaps one per month leaves the hospital but invariably returns. The departure from the hospital is usually the result of getting lost rather than an attempt at escape. Of the 1350 patients already in residence or admitted during 1960 there were 958 hebephrenic schizophrenics, 125 catatonic schizophrenics and 135 paranoid schizophrenics.

The attitude of the community toward mental illness according to the director of the hospital is usually quite open, and there is no feeling of either fear or dislike of psychiatric patients. This is in some contrast to Djakarta where there is a certain amount of shame regarding disease in general, but interestingly enough primarily centered on leprosy and tuberculosis rather than psychiatric disorders. Occasionally a major social problem is created by a patient (a father, say) being accepted back into the family if the daughters are about to be married since the father may become an economic burden. There is a great tendency to forget about relatives who are hospitalized and particularly in those groups which do regard mental disease as a disgrace. Because of the extended family system a peripheral relative is just as great a source of embarrassment as a father or son.

There is invariably a long waiting list for admission but in cases of extreme urgency the staff can accept a patient immediately. All patients admitted to the hospital require certification. The family applies for admission and the patient is then certified by a psychiatrist and placed at the bottom of the waiting list. The notice of certification is sent to the Department of Justice for filing in case anyone wishes to contend the action.

Of the patients discharged from Bogor an average of about 1 per day can be seen at the outpatient polyclinic in town. At the Bogor Mental Hospital which is several

miles outside of town there are extensive follow-up facilities available, but they are rarely if ever used because of the transportation problem. It would cost 20 or 25 rupiah at the very least for the patient to get to the hospital, and in most cases it would be closer to several hundred rupiah which is completely prohibitive.

Bangli Hospital on Bali. The Bangli Hospital, formerly a military barrack, was built in 1920 and became a 150-bed mental hospital in 1930. Two new 50-bed wards for males are to be added in 1962. On the island of Bali there are also three 40-bed general hospitals.

There are 18 polyclinics on the island with a limited number of physicians who are in attendance on different days. The visit to the mental hospital is routinely made on Monday and probably does not occupy more than an hour of the time of the general practitioner. There are no resident physicians at the hospital and there are no psychiatrists on the island of Bali. The number of patients at the hospital (circa 1961) is the same as when the Dutch were there. A definite shortage of supplies exists, including penicillin and even materials for work therapy, so that there are looms and other equipment which stand idle. In 1961 there were 90 male patients, 60 female patients and a waiting list of 131 men and 20 women. Thus the waiting list was larger than the number of hospitalized patients. Patients are given a month's clinical trial at home before they are formally discharged from the hospital. The hospital averages about 15 male and 10 female admissions *per year*.

The diagnoses of the patients of the hospital in 1960 are shown in Table 1.

The facilities for laboratory examinations are also extremely limited, and during the entire year 1960 there were only 13 blood tests for syphilis (4 were positive), no sputum tests, no vaginal smears, 122 urine and fecal examinations (diarrhea and particularly amebic dysentery are common).

In conjunction with the mental hospital at Bangli, but several miles away at Klungkung, there is a colonia(1) of 59 patients managed by 8 employees. This is a type of rural farm residence for long term patients who cannot adjust in society but ap-

TABLE 1
Diagnostic Distribution of Patients at
Bangli Hospital, Bali

DIAGNOSIS	NO. OF MALE PATIENTS	NO. OF FEMALE PATIENTS	TOTAL
Schizophrenic	47	34	81
Manic	9	9	18
Manic-depressive	6	3	9
Psychopath	3	1	4
Hysteric	0	4	4
Melancholic	0	1	1
Dementia paralytia	1	0	1
Epileptic	9	2	11
Idiot	0	1	1
Luetic psychosis	5	2	7
Paranoia	3	1	4

parently do extremely well under supervision. The government pays 2 rupiah per day toward the patient's upkeep if the family cannot afford this. The colonia is largely self-supporting since it sells the agricultural produce it grows.

Porong Hospital in Lawang. Built in 1902 the full name of this hospital is Rumah Sakit Djiwa Sumber Porong. Formerly there were 4000 beds, but now the theoretical capacity is 2000 patients with three unused wards, because the buildings have been condemned. The actual capacity is therefore 1800 and the actual occupancy is 1774 patients plus 110 patients on parole. The hospital is extremely clean throughout, although there is open ditch sewerage as in most of Southeast Asia. There is an acute shortage of journals and current psychiatric books. A colonia for 1100 patients was totally destroyed during the war for independence and the patients sent home.

Treatment consists primarily of ECT with patients given a course of 12 treatments. Drugs are used only when the family can afford to buy them and in the course of the past 4 years there have been less than 100 such patients. Chlorpromazine is usually given in top doses of 150 mg. a day or reserpine is used, 12 tablets of the 0.25 mg. size (*i.e.*, 3 mg. per day). Another form of treatment is occupational therapy, but only 6 of the 50 looms have sufficient thread for patients to be working on them.

Magelang Hospital. This hospital, built in 1920, formerly was overcrowded with 2000 beds in contrast to the 1100 now in use. Ad-

missions and discharges total about 300 a year. The director is a German physician who has been there for 6 years. In addition on the staff are 3 or 4 local physicians not trained in psychiatry. Approximately 50 patients pay up to 50 rupiah and another 50 patients pay less than 50 rupiah whereas the other 1000 pay nothing. Treatment consists of scopolamine, morphine, and ECT for sedation. Psychopharmaceuticals are not available.

ECT, used only in cases of excitement, is given 3 times a week for up to 10 weeks. For the past year patients have been kept outdoors most of the day, and there is very little disturbed behavior. The remaining closed wards in the hospital are having the bars removed since all of the patients are outdoors at least in the afternoon.

Occupational therapy consists largely of mat weaving with a substantial amount of Batik work which seems most relaxing for schizophrenic patients with a proclivity to stereotypy or automatisms.

Attitudes Towards Mental Illness. As a rule there is less fear of psychiatric patients in Indonesia than in many other cultures, and certainly leprosy and tuberculosis are regarded as having a greater stigma attached to them than mental disorders. One possible explanation is that in accord with Javanese religious practices there is appeasement of the "black gods and spirits" as well as worship of the good ones so that people are not afraid of becoming contaminated by the evil spirits in the mentally ill since these spirits have been propitiated.

As is obvious, only a small proportion of the mentally ill are admitted to the hospitals and the majority are given "native treatment," particularly in east and in central Java. Such practices are more frequent in the villages than in the cities and generally consist of "washing a patient's soul in the river" which is not without its hazards as sometimes the patients drown. There is also treatment with incense, holy water and amulets. A large number of the patients who cannot be admitted to the mental hospitals because of the space limitations become tramps and wanderers. Senile patients and mental defectives, on the other hand, are kept at home.

Javanese families are very patient, and

this is especially helpful in the treatment of ambulatory patients. If, for instance, they are asked to feed a withdrawn or depressed patient they will continue offering him food perhaps 100 times whereas the average European or American family would give up in disgust after 3 or 4 attempts.

Differences in Types of Mental Disorders. The hospitalized patients are usually schizophrenic with an even higher proportion than in the United States. There do exist some subtle differences which may well be related to culture. One of the most interesting of these is that the paranoid patients do not have nearly so systematized delusions as do paranoids in the Western world and even when they have hallucinations, rather than trying to find out how they are produced, who is causing them, and why, the patients simply accept them. Abusive voices, visions of people far distant or long dead and the other common hallucinations and delusions are not particularly disturbing to the Indonesian patient. In part this may be because such phenomena are not regarded as so unnatural as in our culture, and in part there is a general acceptance of things without the need to inquire into causes (which is so typical of Western civilization).

In none of the hospitals which I visited was there any record of a native Indonesian ever having committed suicide, and even among Indonesians of Chinese origin suicidal attempts are extremely rare. As far as could be gathered from the statistics the occurrence of manic states was more frequent than depressions.

Among the more unusual forms of psychiatric disorder is *latah*. This appears to occur in a hysterical type personality and may be a type of conditioned reflex. It is usually an elderly Indonesian servant who becomes *latah* with attacks being precipitated by sudden or unexpected events, sounds or occurrences. The most striking symptom is repetition, but it is quite distinct from echolalia. The person becoming *latah* usually shouts such phrases as "horse penis," "cow vagina" or other phrases with similar sexual content. An attack can be deliberately provoked by shouting, for instance, "don't do that!" with the victim then repeating "don't do that" or, if a dirty word is

shouted, the patient will repeat it or add one or two of her own. This can be transferred into the sphere of action, e.g., a servant enters carrying a bowl and if someone shouts "drop it" the servant will drop it and then repeat whatever is said. The attacks last only as long as the person is being teased. Subjects are almost always conscious of what they are doing and do set limits to their action: for instance, if a female is told to pull up her sarong she will not do so. Someone could shout "kiss him" and the person in *latah* might do this but later become angry about what she had been tricked into doing. If the teasing continues long enough the subject may make an effort to discontinue the odd behavior and terminate the attack.

In summary, *latah* appears to be a type of hyper-suggestibility induced by shock, command, noise or physical trauma such as stumbling or being pinched. Almost all the patients are females.

Another much discussed condition is *amok* which is probably an indiscriminate acting out of acute aggressiveness without specific motive or selectivity as to the person or thing being attacked. If nothing else is available such patients will sometimes attack their own body. It is unusual to be able to examine such patients since the attack almost always ends in the death of the patient who is shot by the police or military to prevent further mayhem or homicide. The disorder usually occurs in young or middle aged males who are quite responsible individuals up to the time of running *amok*. It is possible that these attacks are induced by shame with an inner need for revenge. The person appears to accept an insult or a shameful situation quite calmly without saying anything and quite possibly without conscious awareness of his deep emotional reaction only later to become *amok*. The few patients examined have all had complete amnesia for the episodes and are definitely not schizoid types of individuals but appear to be the more emotionally hyper-reactive. It may be that they experience an hallucinatory state with a feeling of being pursued by devils which is necessary for them to slay. Incidentally, there is no record of a patient who became *latah* later running *amok*. Unlike *latah*,

the incidence is as high in individuals of Chinese origin as among the Indonesians.

Another practice which falls into this general group is *diguna-guna* which is probably a type of anxiety pseudo-psychosis. By way of background: 1) a man is in love with a woman who dislikes him and he then seeks some device to make her love him; 2) a man feels he has been insulted and wishes an evil spell cast to make his enemy ill. Both of these can be theoretically achieved by taking some belonging of the person on whom the spell is to be cast (such as nail parings or hair) and bringing this to the *dukun* who (in addition to being the local medicine man) is a medium and capable of inducing (or removing) trances. The person on whom the spell is cast cannot resist: the woman falls in love with the man; the enemy becomes psychotic in which case "black magic," *dibikin*, has been invoked. The victim is not always directly informed that he or she is being "bewitched," and it is a question as to whether he learns of this from secondary clues or in some other way. It is possible to influence the patient out of this pseudo-psychotic state. There does not appear to be an easy explanation for some of these cases. There are some intriguing similarities to Haitian beliefs(2).

Mandi-Minjak-Mendidi (which means "bathing in boiling oil") and *djalan diatas api bara* ("walking on blazing charcoal") are both Chinese religious ceremonies which occur yearly (if the government permits) when a particular statue is taken out and carried through the streets. The devotees transform themselves into the "God of Fire" with the help of Chinese priests and in this trance state they demonstrate the might of the god since they can perform feats that would not otherwise be possible.

Koro is the Chinese belief that under certain circumstances the penis may recede into the abdomen and occasional cases are found where a stick has been bound tightly to the organ to prevent this disaster.

Kesuruban is like a seance in the United States or Western Europe. One who believes intensely goes into a trance and is then possessed (usually by a good spirit). One occasion for *kesuruban* is if a physi-

cian tells a patient that there is nothing more that he, the physician, can do to help. The patient with some fellow believers may go to a local temple. This is true of both the Chinese who pray to the God of Medicine and the Javanese who, despite the fact that they are nominally Islamic, will never pray directly to Mohammed to ask a favor but always request such help from the Hindu Gods who are also members of the Javanese pantheon. When the medium goes into trance he speaks with a different articulation and intonation and sometimes uses a foreign dialect. If the god predicts the patient will get well he or his friends later return for a second ceremony to determine the medication, the dosage, and the method of treatment including incantations, *etc.* Frequently the second visit is unnecessary because the medication itself appears in a trance or a dream and the believer then proceeds to a Chinese or other dispensary to have the medication prepared according to the recommendations. Sometimes this consists merely of writing certain formulae on paper and after burning and mixing, the ashes are swallowed. In *kesuruban* a skilled medium can also go into a trance under his own power without a seance and transform himself into an "ideal" personage. Under these circumstances there is frequently identification with the characters of the Indonesian shadow plays (*wajang*).

Another peculiar phenomena is *kuda-kepeng* (kuda=horse and kepeng=matting or bamboo). The resultant performance, usually done for payment, consists of a boy and a girl who spin about on their

feet for three to five hours to very monotonous music with the "master" snapping a horse whip. At the end of this time they appear completely entranced and will eat raw rice including the stems, leaves and husk and also will chew up electric light bulbs (spitting them out) without apparent injury to the mucosa of the mouth.

Discussion on the Future of Psychiatry in Indonesia. It is palpably impossible to furnish an adequate number of psychiatrists or hospital beds for Indonesia in the immediately foreseeable future. The responsibility for patient care therefore devolves directly upon the general practitioner, and a plan is being developed both to provide such training and to evaluate its effectiveness. Some of the general factors that must be considered have been discussed elsewhere (3-6).

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PSYCHIATRY IN IRELAND

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Since my arrival in the United States, it has been said to me on many occasions: "So you are a psychiatrist from Ireland. Surely they don't need psychiatrists over there. I thought that life in Ireland was so easy going they wouldn't have any worries about mental health." And yet, when one begins to look more closely at the situation, it is found that approximately 7 persons per 1000 of the population in the Republic of Ireland² are currently hospitalised for mental illness(2). This is more than twice as high as the corresponding figure for the United States of 3.61 per 1000(4), and is probably the highest figure in the world. An even more startling percentage is to be found in one county in the West of Ireland where 12.3 persons per 1000 are in mental hospitals; that is more than 1% of the total inhabitants in that area. In a country with a predominantly rural society where toleration of disturbed behaviour is probably high rather than low such facts as these hardly suggest that the problem of mental illness is a negligible one or that there is much room for complacency.

Ireland is a small island, the western outpost of Europe—some 300 miles from north to south, nearly 200 miles from east to west. It is a country with an ancient civilisation presenting many contrasts between the old and the new, ranging from the inhabitants of a modern European city like Dublin to the nomadic "travelling" people who roam all over the country and whose way of life has probably changed little for over a thousand years. In little more than a century the population of Ireland has fallen from over eight million to approximately half that number. Although for hundreds of years there has been some emigration the more recent excessive trend was largely set in motion by the great famine of 1845-47, when in barely four years nearly a million people per-

ished from starvation and an even larger number were forced to leave the country. The present population of the Republic of Ireland is just under three million.³

A high rate of emigration alone is not sufficient to explain this marked reduction in population. Another factor is probably the annual marriage rate of 5.3 per 1000, one of the lowest in the world. Contributing to this is the fact that one quarter of the population do not marry at all and the average age of those who do is one of the world's highest—33 years for men and 28 years for women. These characteristics too are probably partly a result of the great famine when the Irish people seem to have suffered a profound loss of confidence in the future. Prior to that period they had married at an early age.

In recent years there has been increasing evidence that the tide is turning against such all-pervading pessimism. Under the impetus of a rapidly growing industrialisation and an improving economic position an atmosphere of buoyant optimism is fast replacing the former cynical apathy. Already people are beginning to marry earlier in urban areas, the rate of emigration has fallen markedly in the past two years and a growing number of those who had left the country are returning home. Ireland is now about to enter the European Common Market and this will undoubtedly lead to widespread economic and social upheaval. These signs would seem to indicate that the country is approaching a period of rapid social change. This is already being mirrored by an increasing interest in mental health and a feeling that something must be done to provide more adequate psychiatric care. It seems therefore an appropriate time to review the current position of mental health services in Ireland.

Historical Background of Health Services. Considerable progress has been made in the past quarter century in Ireland towards the provision of adequate health services and

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² For the purposes of this paper the six northern counties will be excluded.

³ The population of the six northern counties is approximately 1,390,000.

the achievement of reasonable standards of general health. During this same period, however, there has not been a corresponding activity in the sphere of mental health. Since the end of World War II when for the first time the Department of Health became a separate entity (1947), a number of urgent health problems have been tackled with considerable success(1), notably the control of communicable diseases and the development of adequate maternal and child health services. In more recent years the main emphasis has been placed on a campaign for the eradication of tuberculosis. Large regional sanatoria were erected in addition to many smaller facilities. While this programme was still being carried out, new powerful anti-tuberculous drugs were introduced with the result that a number of the newer sanatoria have never been fully occupied at any time since they were built. This lesson should serve as a warning to those who would suggest the construction of large new mental hospitals, for such structures are already contra-indicated by present knowledge of the nature of mental illness, and are likely to become even more incongruous in the face of future therapeutic advances.

During the same period there was an energetic hospital construction programme as a result of which modern medical and surgical hospitals were erected all over the country. Ireland is now more adequately supplied with general hospitals than almost any other country in Europe. In contrast to this the mental hospitals are almost without exception old and dilapidated. Although there should not be any shortage of accommodation (7 beds per 1000 population), these institutions are in fact filled to capacity and in many cases grossly overcrowded.

Perhaps at this point it is interesting to speculate as to why Ireland should have such a uniquely high mental hospital population. The reason which first suggests itself is that this is due, in large part, to long continued emigration of the more virile, healthy elements of the population. It seems to me, however, that a more likely explanation lies in the fact that the majority of the mental hospitals were built early in the last century when the population was roughly twice as large as it is today. This then would

provide an instance of what has often been noted by others that the more psychiatric facilities there are available the greater the number of patients who will be found to utilise them. In this way the existence of a large number of mental hospital beds in a country may have an adverse rather than a positive effect upon mental health. If, as in many countries, an acutely disturbed psychotic can only find accommodation in the local jail, he is likely, as soon as the acute episode subsides, to be returned to the community from which he came. Should there be a place for him in the mental hospital, however, he might well (until recently) remain there languishing on a back ward for many years.

Although there was considerable scope for development under the Irish Mental Health Act, 1945, not a great deal has in fact been accomplished to date(1). Until recently there was not much active treatment carried out in the mental hospitals and even now in a number of areas patients are given little more than custodial care. Up to 1945, nineteenth century definitions, law, and procedures still governed the care of the mentally ill. Patients were "committed" to mental hospitals on warrants signed by peace commissioners, and there was provision for nothing between detention on such warrants and complete freedom. There was a system of "trial discharge," but this did not work well in practice. The Mental Health Act, 1945 (Amend. 1953), was for its time a progressive piece of legislation which made medical personnel responsible for certification of mental patients without resort to judicial process. It is worth noting here that in Britain the Irish Act of 1945 was severely criticised, mainly on the grounds that compulsory detention was effected on medical recommendation alone. It was only some thirteen years later in 1959 that England and Wales adopted similar measures. The United States has not yet done so.

Present Position of Mental Health Services. In 1959, the total number of patients resident in mental institutions in Ireland was 20,609; of these 19,590 were under care in the district (state) mental hospitals and 1,019 were resident in private, private charitable, authorised and approved institutions

(3). During the year 1959, 8,569 patients were admitted to the district mental hospitals and of these 1,666 were over 65 years of age. Any attempt at a breakdown into diagnostic categories must necessarily be somewhat inaccurate due to lack of uniform diagnostic criteria being applied in different hospitals. Figures are only available for the district mental hospitals, but these are interesting in that they show such a high preponderance of psychotic disorders. It seems that in Ireland mental illness is not likely to come to public attention until it has reached psychotic intensity. Broken down into broad categories these percentages are :

TABLE 1
Diagnostic Categories of Patients in Mental Hospitals

DIAGNOSTIC CATEGORY	% OF PATIENTS UNDER CARE ON 31ST. DEC. 1958	% OF PATIENTS ADM. DURING YEAR ENDED 31ST. DEC. 1958
Schizophrenic Disorders, Paranoid and Puerperal Psychoses	53.73	31.18
Manic-Depressive and Involuntional Disorders	15.53	33.78
Mental Deficiency	10.61	3.45
Senile, Presenile Psychoses, Organic & Epileptic Conditions	15.82	14.56
Neurotic Disorders	2.21	9.76
Pathological and Immature Personality, Character Disorders	1.48	2.00
Alcoholism	0.48	4.99
Drug Addiction	0.04	0.24

The average cost of maintaining a patient in a mental hospital per year (estimated for the year ending March 31st, 1959) is approximately \$600, that is less than \$2.00 a day. The cost of a more adequate service would undoubtedly be higher if measured in this way over a given time. Of course this would not necessarily be true if the cost of each patient's illness were measured as a whole, for with more active treatment the duration of complete financial dependence might not be so prolonged. In all events, the present maintenance per patient is extremely low and covers a bare subsistence level. In many instances the actual living conditions for the patient are literally wretched.

Most of the mental hospitals are overcrowded and the number of well trained psychiatrists is inadequate although increasing. Other personnel such as psychologists, psychiatric social workers and occupational therapists are almost nonexistent. Psychiatric nurses are also in short supply

and are, for the most part, inadequately trained. In the field of child psychiatry, there is only one child guidance clinic which is working to full capacity. This is run by a religious order. Another guidance clinic is being organised at a children's hospital in Dublin but is not yet functioning on a full scale. It should be remarked in passing that these clinics follow the traditional pattern for a child guidance clinic in the United States. To my mind, this conception is outmoded, inappropriate, and becomes ludicrously expensive when applied to a country such as Ireland.

Preventive psychiatry is almost com-

pletely undeveloped. There is little activity going on in the community, and not much work is being done in the area of mental health education. Although a few of the Dublin voluntary hospitals have psychiatric beds, there is no properly developed psychiatric department in a general hospital. An aftercare service has been started in connection with only one mental hospital.

The position with regard to mental retardation is little better. It is estimated that there are at least 2,000 persons in the mental hospitals who are there primarily because of mental retardation (5). In addition, there are approximately 25,000 mentally handicapped persons in the community of whom about 7,000 probably require institutional care. To deal with this problem, there are 14 residential centres which provide accommodation for only 2,620 persons. With one exception, all these institutions are managed by religious communities. The government has no direct programme in this field.

There are only three active geriatric units in the whole country. Most old people are cared for in the county homes, or in mental hospitals, often under miserable conditions. Otherwise they have to be looked after at home. Efforts are being made at present to improve the county homes but little evidence of this can be seen as yet. There has been some development in the sphere of domiciliary psychiatry. In a number of districts patients are now seen in their own homes by the psychiatrist or specially selected members of the nursing staff. This is particularly aimed at the geriatric patients who at present occupy a large number of beds in mental hospitals.

In spite of this on the whole rather gloomy picture, there have been a number of more positive developments in recent years. There are two private mental hospitals in Dublin which have now achieved a high standard, comparing favourably with better psychiatric hospitals in Britain and the U.S.A. The staffs of these hospitals carry on active teaching and training programmes. Even in the district mental hospitals there has been a gradual change towards more active treatment. The number of patients admitted on a voluntary basis is increasing; during the year 1959, as many as 58.5% were voluntary(3). The number of psychiatric outpatient clinics, most of which are conducted by the mental hospitals, has grown rapidly during the past few years. At the end of 1959 there were 92 clinics in operation. Plans are now in progress for the opening of two day hospitals with a third to follow.

During the past year the mental health services were discussed openly in the Dail (parliament) for the first time. As a result of this a Commission of Enquiry has been set up to examine thoroughly the whole problem. A similar commission has already been formed to investigate fully the allied question of mental retardation.

These sporadic but nevertheless quite definite evidences of progress would seem to indicate that the country is approaching a period of more active development in the sphere of mental health. As things stand at present, however, the mental health services in Ireland are in roughly the position of equivalent services in Britain and the

United States in the period prior to the second world war, when psychiatric outpatient treatment was rapidly developing and the whole child guidance movement was taking shape. There is the important difference, however, that since then knowledge and understanding of the human personality and mental illness generally, as well as methods of treatment, have advanced considerably. A country such as Ireland is now in a position to draw on such experience and, hopefully, to avoid some of the mistakes which have been made by other countries during the past thirty years.

From the evidence produced by the tuberculosis programme in Ireland it can be learned that the Department of Health is capable of making a concerted drive and investing sufficient capital to bring about significant changes in a particular sector of health. It would seem a pity if, when making efforts to raise the standards of mental health, Ireland were merely to follow slavishly the painful step by step progress already gone through by other countries more developed in this field, rather than make a radical departure from traditional facilities and procedures. Perhaps it is possible for a small country, in a relatively short time, to carry out successfully a plan of major development and reorganization within a limited field of health throughout the entire country. In a nation as large as the United States, on the other hand, it takes many years for a major change in the organization of a health service, however desirable, to gather momentum.

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CYTOGENETIC AND PSYCHOSEXUAL INCONGRUITIES WITH A NOTE ON SPACE-FORM BLINDNESS¹

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Congenital Sex-Organ Deformities (5, 7-11). Genital deformities, as in the various syndromes of hermaphroditism and in the syndrome of penile agenesis, provide the next best alternative to actual experimentation with human psychosexual development relative to chromosomal status. As a result of genital deformities, some individuals with the XY chromosome constitution get assigned to be raised and live as females, and some, with the XX, as males. Examples representing two syndromes are shown in Figures 1 and 2.

For psychosexual research, it is particularly fortunate that, as sometimes occurs, individuals raised in one sex are matched by those of identical diagnosis raised in the other. These parallel pairs serve, in a sense, as experimental controls of one another. The importance of having these controls is this: if the genetic and/or hormonal factors responsible for the genital deformity should conceivably be also responsible for some alteration of psychosexual potential, then both individuals of a parallel pair with identical diagnosis presumably have this alteration.

It turns out, with few exceptions (Figure 3), that each individual of a parallel pair develops psychosexually to have a gender role and identity concordant with assigned sex. The development of one of the pair, therefore, has been able to override any genetically determined tendencies in psychosexual differentiation which would have worked to the advantage of the other member of the pair.

The data on hermaphroditism and related congenital sexual deformity require

one to infer that individuals so affected are born psychosexually neutral or undifferentiated. Psychosexual differentiation then takes place, influenced as language acquisition is influenced, by surroundings and experience. A gender role and identity become established congruously with the sex of assignment. It is a marked, though not obligatory asset, if the genital morphology and the body image it generates agree with, or at least do not grossly contradict the sex of assignment.

There are some logical hazards in generalizing from the pathological example of hermaphroditism to infer that all the human race begins life psychosexually undifferentiated. It could be argued that genetic factors which induce genital deformity also induce an original neutralism of psychosexual potential that most of the remainder of the human race does not possess. Then it could be further argued that in cases of aberrant psychosexual development, like homosexuality and transvestism, there is also an original neutralism, which increases the individual's vulnerability to postnatal developmental experiences and aberrations. Unfortunately for logical neatness, the completely contrary proposition could also be argued, namely that homosexuals and transvestites are unique in alone having at birth a predetermined psychosexual differentiation, but in the wrong direction.

It is not at all necessary, however, to subdivide the human race into those who are psychosexually neutral or undifferentiated at birth and those who are not. It is more reasonable to suppose simply that, like hermaphrodites, all the human race follow the same pattern, namely, of psychosexual undifferentiation at birth. Certainly, an examination of the different syndromes of hermaphroditism and related genital deformities with respect to what is known about the genetics, embryology and endocrinology of their etiology, gives no plausible basis for supposing that these very different clinical conditions all happen to

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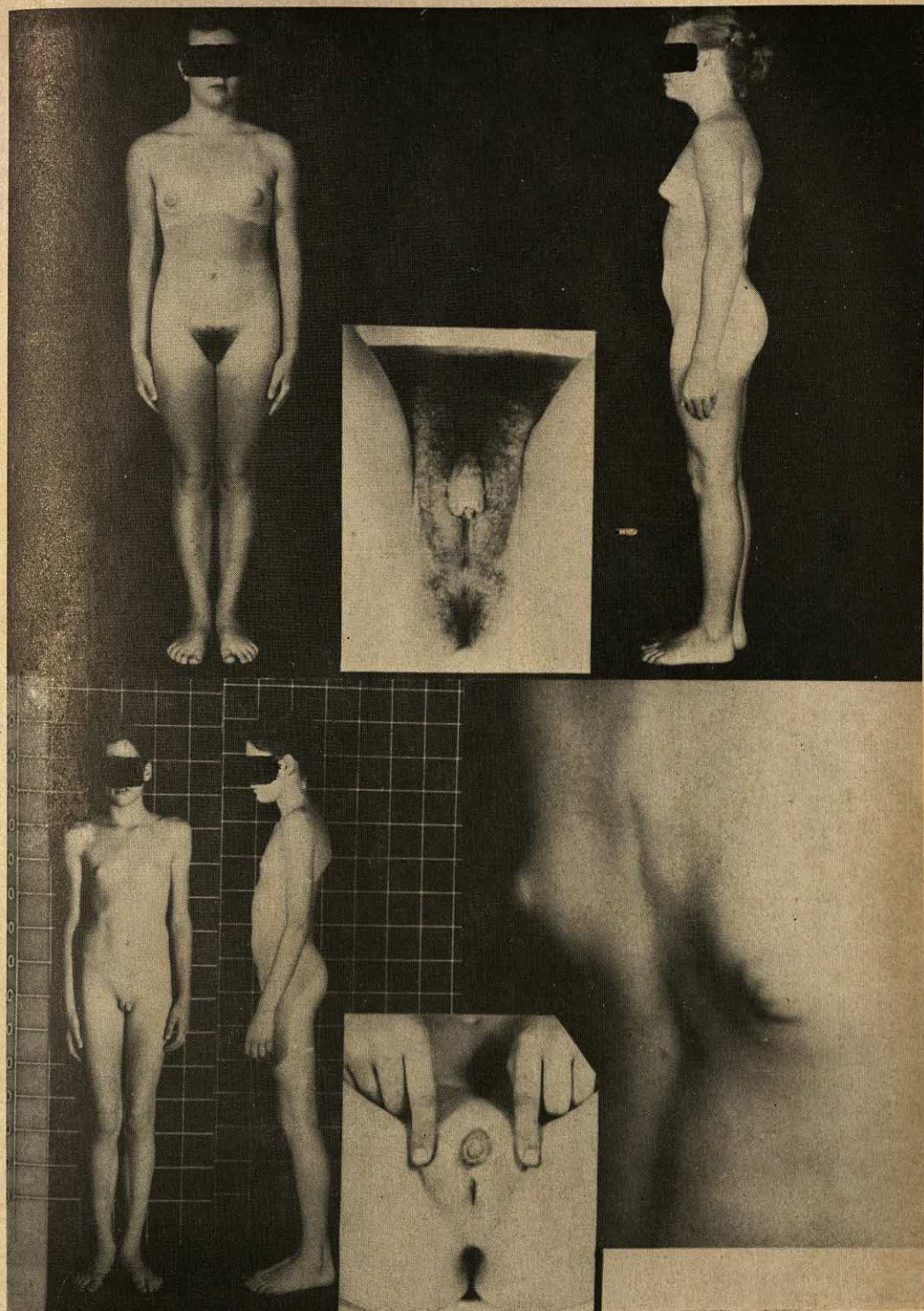


FIGURE 1

Two cases of cryptorchid hypospadiac male (XY) hermaphroditism with spontaneous pubertal feminization. Top, reared and living as a girl; bottom, as a boy. Psychosexual identity in agreement with rearing in both cases.

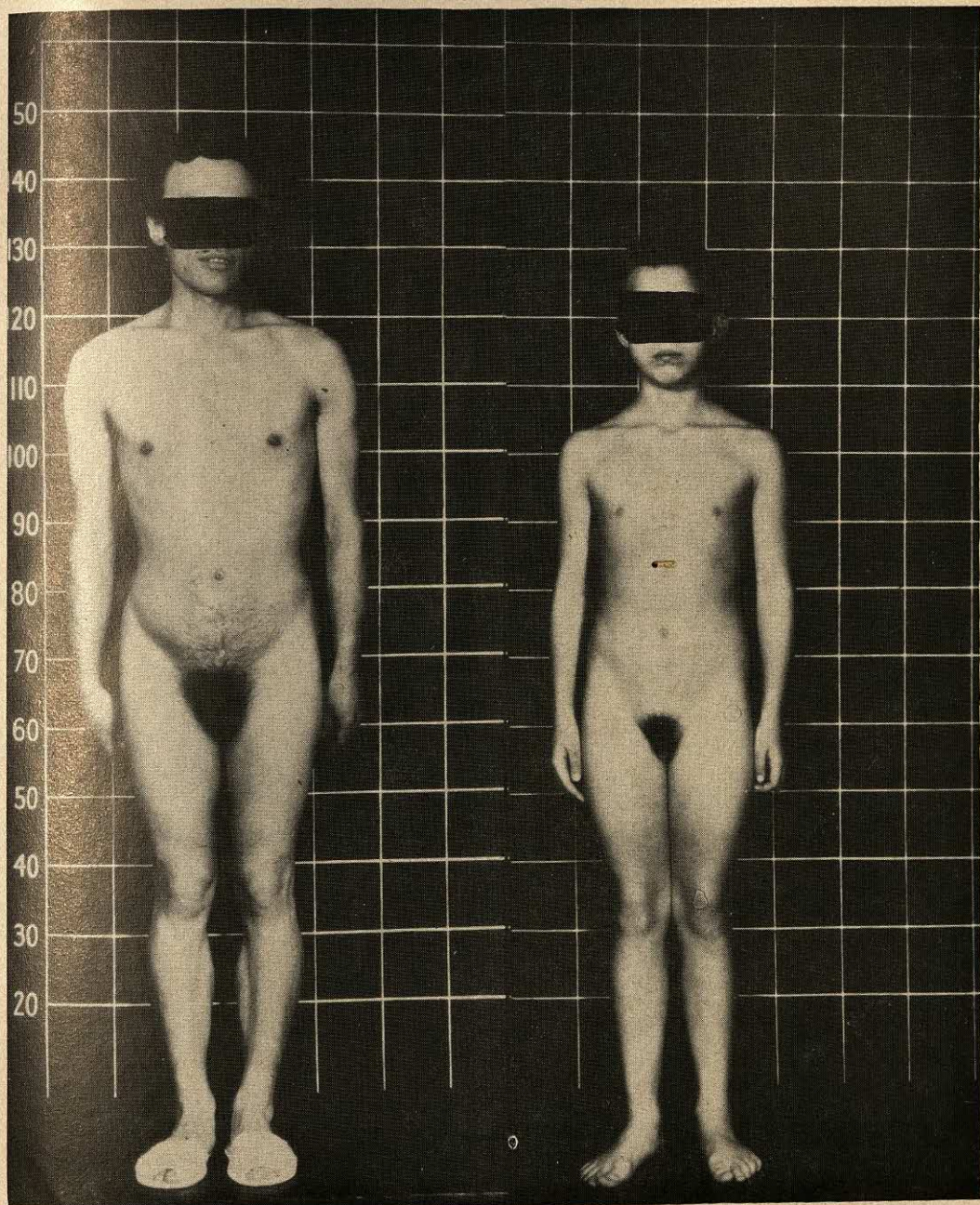


FIGURE 2

Two cases of female (XX) hyperadrenocortical hermaphroditism without cortisone treatment. Left, age 23, raised and living as a girl. Right, age 6 (note precocious adrenal virilism), raised and living as a boy. Nine years later, psychosexual identity in both patients remains fully congruous with continued dichotomy in sex of rearing and correlative surgical and hormonal treatment.

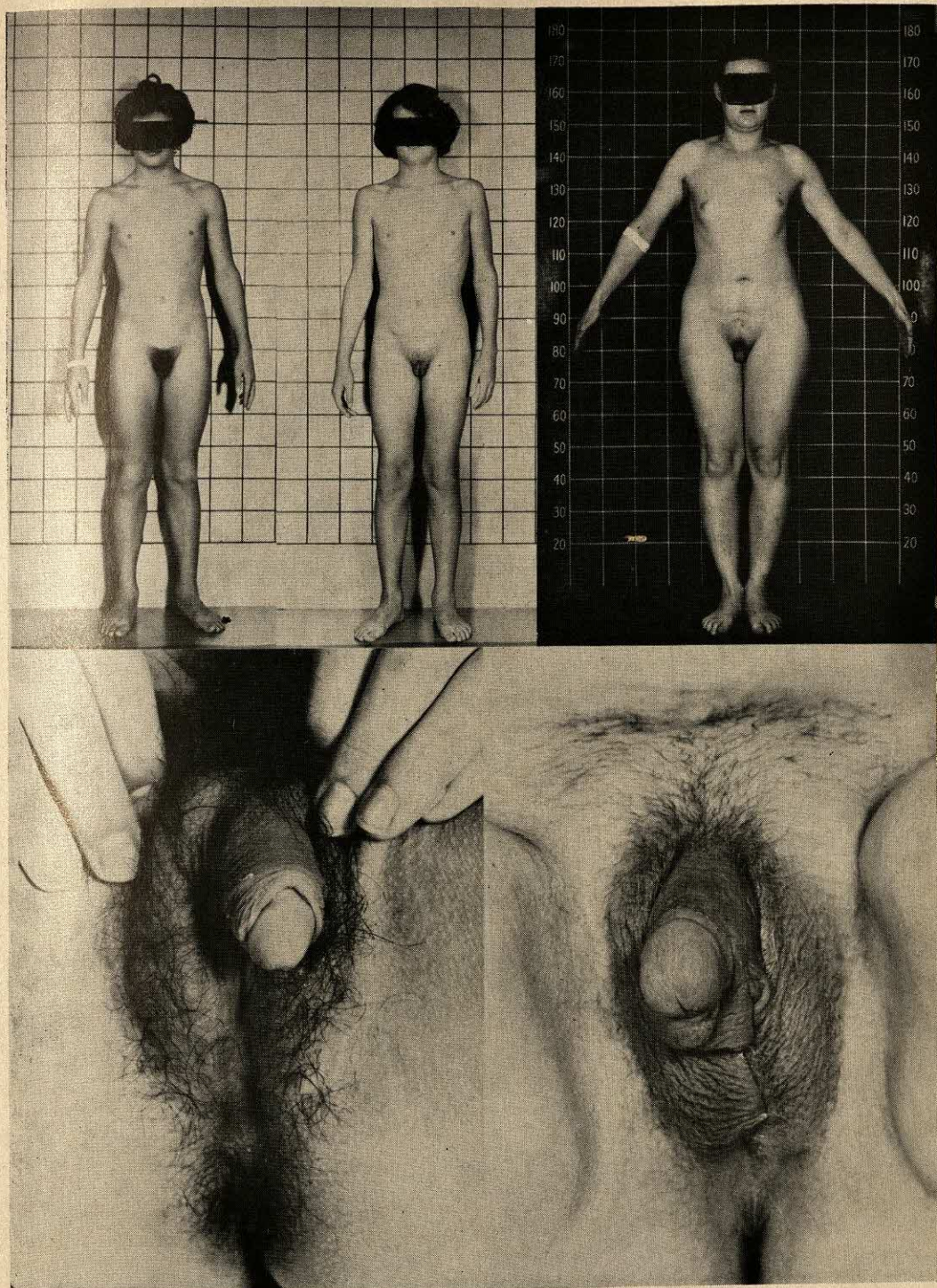


FIGURE 3

Two cases of unfeminized cryptorchid hypospadiac male (XY) hermaphroditism. Left, raised and living as a girl and requesting surgical and hormonal feminization. Right, a rare case of spontaneously requested sex reassignment and surgical masculinization (at age 14) after equivocal rearing as a girl. Psychosexual identity congruous with patients' requests.

share in common a genetic or prenatal factor which predisposes only such a patient to become psychosexually differentiated as either male or female, dependent on rearing.

One is very surprised sometimes not that psychosexual neutrality exists, but that it has not in some cases of hermaphroditism been completely abolished by those same factors that produce the hermaphroditism. To illustrate: hyperadrenocortical virilism in female hermaphrodites (Figure 2) may be so complete as to produce an actual penis in place of a clitoris before birth. Postnatally, virilizing puberty is precocious and intense, producing an exaggeration of masculine physique. Yet, the genetic and hormonal factors responsible for this excessive virilism do not masculinize psychosexual differentiation. In the days before cortisone treatment, some such girls grew up untreated and, even with the hypertrophied clitoris left in place like an hypospadiac penis, established a feminine gender role and identity.

Allow that hermaphrodites share with the rest of the human race the condition of being psychosexually undifferentiated at birth. Nonetheless, they do possess a unique characteristic—excepting those whose hermaphroditism is internal and concealed—not shared by others, namely, that their genitals do not definitively assert that they belong to the one sex or the other. This ambiguity makes it feasible for a child to assimilate the sex of assignment in a way that would be incomparably more difficult for a child with normal-looking external genitals (with or without internal hermaphroditism). In fact, it may even be that the very ambiguity determines, by way of a compensatory, reaction formation, a vigorous assimilation of the assigned sex. On the other hand, it is also the ambiguous external genital appearance, plus equivocal rearing and social experience, that facilitates some few hermaphrodites in the repudiation of their assigned sex.

This influence of the genital morphology is mediated by way of the body image and is not a direct, primal determinant of psychosexual differentiation. The evidence of hermaphroditism, including both assimilation and repudiation of assigned sex, does

not support any simple-minded theory of social environmental determinism in psychosexual development.

Psychosexually undifferentiated organisms are not necessarily identical. They may be dissimilarly equipped to undergo psychosexual differentiation, in rather the same way as some embryos are dissimilar from others and differentiate as hermaphrodites. How organisms differ in their preparedness to undergo psychosexual differentiation after birth can scarcely be guessed at, presently. One must allow the possibility not only of genetic differences but also of those engendered by intrauterine experience. It must surely be assumed that these differences are not specific for psychosexual differentiation, *per se*, though they may be integral to its progress, exerting their influence on the course of learning, assimilation of experience and response to stimuli.

As an example, consider the sense of smell. There is a sex difference in olfactory acuity in adults, positively correlated with the estrogen phase of the female menstrual cycle. Nothing is known about either sex differences or individual differences in the sense of smell in the newborn. It is conceivable that differences do exist. Though it is an unlikely possibility, it is at least possible that boys and girls respond differently to the smell of men and women, and so are differently affected with respect to psychosexual differentiation.

Another provocative speculation is that males may be equipped differently than females in regard to "territory assertion rights," a complex behavioral entity little understood in the human species. Conceivably this entity may manifest itself in the greater incidence among boys than girls of free-ranging locomotor activities and expeditions, greater vulnerability to death by accident, more frequent engagement in physical, body-contact, power struggles for position in the childhood pecking-order, and less sedentary sports and pastimes. The contrary behavioral entity in girls, one may speculate, pertains to what is, in the phylogenetic sense, nest-making and infant-care.

The theoretical model for psychosexual differentiation, as presented up to this point, involves an original state of neutrality plus individual differences that antedate psy-

chosexual differentiation but will affect its course.

Some of these differences may well be genetic traits. It is more likely that such traits are dispersed among the autosomes than that they all happen to be carried on the X or Y chromosome.

Regardless of chromosomal mechanism, such genetic traits as may relate to psychosexual differentiation do not assert themselves, willy nilly, regardless of postnatal experience. The evidence of hermaphroditism is very clear that the genetic predispositions, better called the norms of reaction, toward masculine and feminine are not mutually exclusive in psychosexual differentiation.

Old-fashioned concepts of the autonomy of heredity, to the exclusion of environment, in psychosexual determination need to be revised. The hereditary mechanism is not one that directly determines psychosexual differentiation. Rather, it determines that psychosexual differentiation shall, like native language, be dependent on postnatal experience. As psychosexual identity becomes differentiated it becomes permanently indelible and imprinted, and subsequently as influential as if present at birth. This idea of the indelibility of the products of the interaction of heredity with experience and learning is profoundly important and is prerequisite to an understanding of how a person's gender identity and role can become so fixed as to appear as if innately determined, *in toto*. The evidence from hermaphroditic cases of sex reassignment is that the critical period for gender imprinting is in early childhood, beginning with the onset of mastery of language.

Chromosomal Sex in Homosexuality and Transvestism. In aberrations of psychosexual differentiation, the error which induces aberrancy may be envisioned as having its origins in the genes, in intrauterine experience or—and this is by far the most likely possibility—in the experiences of the early years of life which are the most critical ones for psychosexual differentiation. So far as genetics might be concerned in aberrant psychosexual differentiation, it is not possible to implicate any gross visible anomaly of the sex chromosomes, on the basis of present techniques. Patients with psycho-

sexual aberrations have, as a general rule, the usual XX or XY chromosome complement.

Before the technique of chromosome counting was discovered, nuclear sex chromatin surveys of homosexuals disclosed no discrepancies between them and control groups of men with normal masculine gender identity (2, 14, 16). Barr and Hobbs (1) found typical male chromatin pattern in the cell nuclei of 5 cases of genuine male transvestism.

The converse of the above findings also holds true, namely, that syndromes characterized by chromosomal deviation are not also marked by psychosexual deviation. Thus, abnormalities of the X and Y chromosome complement, as in Klinefelter's and Turner's syndromes, do not correlate, except maybe fortuitously, with psychosexual aberration.

The XXY (Klinefelter) Syndrome. In addition to its pertinence for psychosexual theory, the XXY syndrome is of psychiatric interest in relation to associated sporadic incidence of mental deficiency and of symptoms of psychopathology. In the present context, however, I wish to direct attention only to psychosexual aberration, which is also of sporadic incidence in the syndrome.

Raboch and Nedoma (16) found no homosexuality in 36 men with this syndrome, identified by means of a positive sex chromatin. Conversely, none of 194 homosexuals had a positive chromatin.

In 1957 Pasqualini, *et al.* (15), published a review of 31 Klinefelter cases from Argentina. Seven were rated low in sexual activity and 13 normal, with no data on 11. Homosexual experiences, of occasional incidence, reported by 2 patients, were the only aberrations of sex behavior mentioned.

Mosier, *et al.* (12), found a higher preadmission history of sexual offenses (nature not specified) in a census of 10 XXY cases in a mental deficiency hospital than in a control group ($p=0.0025$).

In another institution, a census of 6 sex offenders with the XXY syndrome was constituted as follows: 3 cases of sexual offence with boys, 1 with a girl, 1 rape with a married woman and 1 attempted mother-rape.

Over the last 5 years I have seen 21 pa-

tients with the XXY syndrome, verified either by a positive sex chromatin finding or by actual chromosome count. The youngest was a prepubertal boy of 12½ years, the oldest a man of 69. The others ranged in age from 14½ to 52 years. The sample was obtained not by random selection from the total United States XXY population, but was biased in favor of psychopathology and low IQ. Six of the patients were institutionalized for mental deficiency, with IQs ranging from 60 to less than 37. Among the remaining 15, 6 were below average in IQ, 7 were average, and 2 were superior (IQ 121 and 132).

All 20 of the postpubertal patients were low-powered in sexual urge and frequency of erection and orgasm. Only three were rated with medium strength of genitopelvic eroticism, their orgasm being reported at a maximum of three times a week. The rest were rated weak, except two who were morbidly weak and apparently had no orgasm at all in the prime of life. A low sexual threshold is a feature of the XXY syndrome frequently remarked on by those familiar with case management.

Sexual activity was distributed among the 21 patients as follows :

None	2—including 12½-year-old
Masturbation	8
Heterosexual	6—all noninstitutionalized
Homosexual	
Female > male	3—including 1 institutionalized boy
Male > female	1—institutionalized opportunistic homosexual
Transvestite	1—claimed no orgasm, no masturbation

Only the transvestite had been married, and for no longer than a few months. He was a fairly typical example of the contrasexist eonist who requests a surgical and hormonal sex reassignment. He was atypical in claiming total impotence and an absence of genitopelvic arousal or interest of any kind.

Other instances of the paired occurrence of transvestism and the XXY syndrome have been reported. Overzier published a case

in 1958(13). The coincidence of the two conditions would appear to be sporadic, however. The same can be said of the coincidence of homosexual behavior and the XXY syndrome. The psychosexual pathology in such cases can best be regarded as yet another manifestation of a more general vulnerability of the XXY constitution to psychopathology of many different varieties.

Though there is no final and conclusive answer, to date, because of sampling bias, the XXY constitution does indeed seem to be fertile soil for a range of psychologic dysfunctions, including simple and episodic schizophrenia, psychopathic delinquency, extreme phobia, mental deficiency, congenital dyslexia, and congenital speech apraxia—to mention the most outstanding dysfunctions represented in my sample of 21 cases.

XXX and XXXY Syndromes. Examination of 5 mentally defective individuals, 3 XXX females and 2 XXXY males revealed no unexpected psychosexual findings, except low-powered eroticism.

The XO and Related Chromosomal Anomalies of Turner's Syndrome. Chromosomal and sex-chromatin data on the 40 patients used in this report are presented in Table 1.

TABLE 1

Nuclear Sex Data * on 40 Cases of Turner's Syndrome	
Chromatin negative	
No count done	24
XO	3
Inconclusive	1
Chromatin positive	
XO/XXX mosaic	1
XO/XX mosaic	2
XO/XX mosaic	2
XO/Xx (deletion) mosaic	1
XX (probable translocation)	1
XO/xX mosaic	2
Chromatin pattern undetermined	3

* The chromosome counts are those reported by Dr. Malcolm Ferguson-Smith, now at the University of Glasgow, whose cooperation is gratefully acknowledged.

Five different people, in the course of personnel changes over the years, were responsible for the tests and interviews. The 40 cases range in age from 11 to 31 years.

They belong to a total sample of 52 cases, of which 2 were too young and 10 were, for various fortuitous reasons, insufficiently studied for psychosexual tabulation. The 52 constitute 85% of the census of Turner's syndrome in the pediatric endocrine clinic for the 10 years 1951 through 1961. Vacations and conflicts of schedule were responsible for failure to see the other 15%. It is not known how representative the sample is of the total United States population of the syndrome. However, the sampling was not biased by referrals for psychologic and psychiatric reasons. The typical presenting complaints were dwarfism plus pubertal failure.

There was no evidence in the present sample of any direct association between the chromosome anomaly and psychopathology. Five of the girls had moderately severe neurotic problems stemming from their dwarfed stature and/or morbid family sociodynamics. Eight others showed some lesser sign of ego defense against dwarfism and hormonal infantilism. None of the 40 patients evinced deviations from the expected female gender role and identity. There was only one instance of reported homoeroticism. It occurred at age 11(6) and was totally without residue when the patient returned with her fiancé 11 years later preparatory to marriage and obviously in love.

Completeness of information on cognitive eroticism, genitopelvic eroticism and sexual experience varied greatly as a function of age, treatment status, availability for interviews, and other clinical exigencies. The general trend, however, was consistent. In childhood, and adolescence, the girls had the romantic, sentimentalized fantasies of courtship and marriage that are typical of girlhood. They did not include genitopelvic eroticism. The incidence of childhood masturbation was variable. Development of teenage dating was heavily influenced by problems of dwarfism (very few patients reached an adult height of 5 feet, and the severely affected were adult at 4½ feet), and by the timing of hormonal substitution treatment to induce puberty.

In adulthood, the women were, like most women, romantically aroused by visual or narrative stimuli, but required tactual stim-

ulation to become aroused to genitopelvic eroticism and copulatory activity. Those two patients who were married reached orgasm, even when they had discontinued estrogen treatment, one of them for 8 years. They had intercourse only once a week or less, and reached orgasm at least every third or fourth occasion. One other patient had orgasm, from infrequent masturbation. One other patient had tried intercourse a few times, perfunctorily, without orgasm.

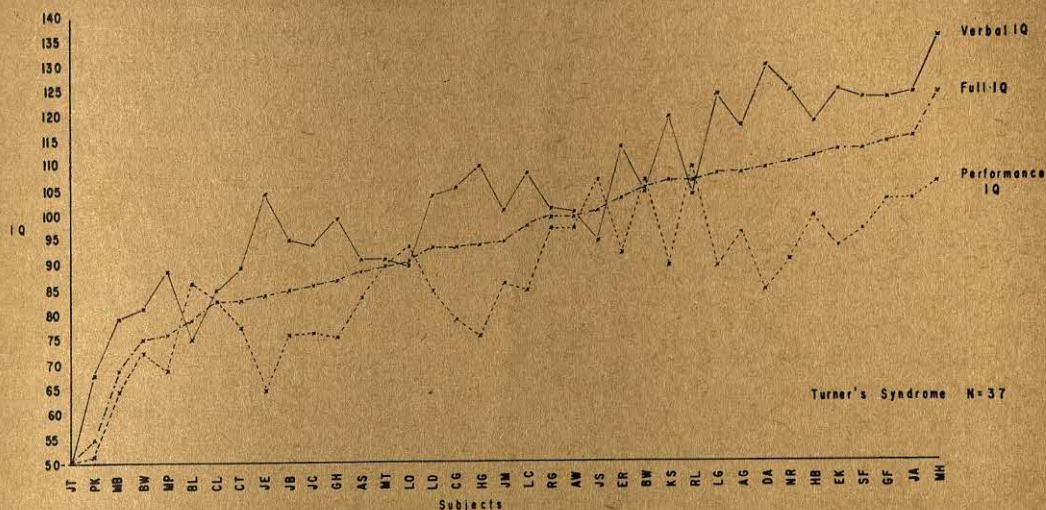
In addition to these 4 patients, there are records from 10 of the remaining 16 older patients with information about genitopelvic eroticism. None had had orgasm. Their reports varied tremendously in degree of arousal experienced, from apathetic unresponsiveness to full-functioning erotic excitement. All in all, it is impossible to associate high-powered erotic functioning with any of the chromosomal anomalies of Turner's syndrome. Some patients may rate as average, but the tendency seems rather to be toward low-powered erotic functioning. Chromosomes cannot be directly implicated, of course, because these patients have, first, the psychosocial handicap of dwarfed stature and, second, the hormonal handicap of congenital absence of the ovaries.

A Note on "Space-Form Blindness" in Turner's Syndrome. Figures 4 and 5 show the IQ distribution of 37 cases of Turner's syndrome. The range is from below 50 to 125, with a Mean of 95 and a S.D. of 17.

Notice, however (Figure 6), the unusual discrepancy between Verbal IQ ($M=103$; $S. D.=19$) and Performance IQ ($M=86$; $S. D.=15$). The difference is significant at beyond the level of 1% ($p<.01$). This difference, as was shown by Shaffer (17) in a study of a subgroup of 16 of the present cases, can be attributed to a specific space-form-perception deficit. The deficit applied equally to chromatin positive and negative cases in Shaffer's sample.

Shaffer's procedure, based on the factorial analysis of Cohen (3, 4), was extended to all patients of the present series, with the modification of including results from the three Wechsler scales, W-B 1, WISC, and WAIS. A score for Perceptual Organization was calculated for each patient, from the Wechsler subtests, Block Design and Ob-

FIGURE 4



Distribution of Verbal and Performance IQs of 37 cases of Turner's syndrome arranged according to ascending order of magnitude of IQ.

ject Assembly. Another score, for Verbal Comprehension, was calculated from the subtests, Information, Comprehension, Similarities and Vocabulary. The results are shown in Figure 7, and as follows:³

³ The calculations are based on 36 cases only, omitting the gross mental defective who made no score on any of the subtests.

Perceptual Organization :

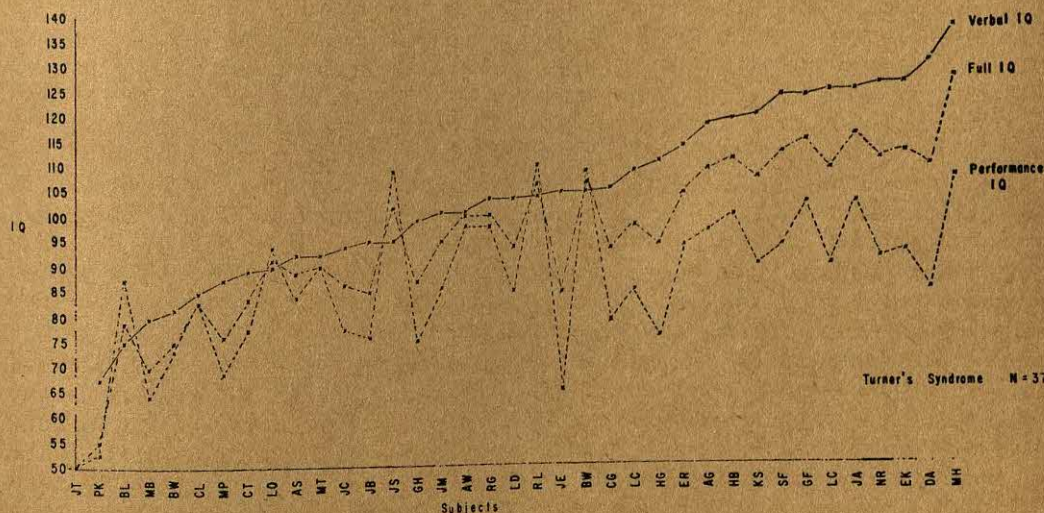
M=77.5 ; S.D.=32

Verbal Comprehension :

M=112 ; S.D.=28

The difference is significant at beyond the level of 1% ($p < .01$). One may speak, therefore, of a degree of "space-form blindness" associated with the X chromosome anomaly of Turner's syndrome. Apart from

FIGURE 5



Distribution of Performance and Full IQs of 37 cases of Turner's syndrome arranged according to ascending order of magnitude of Verbal IQ.

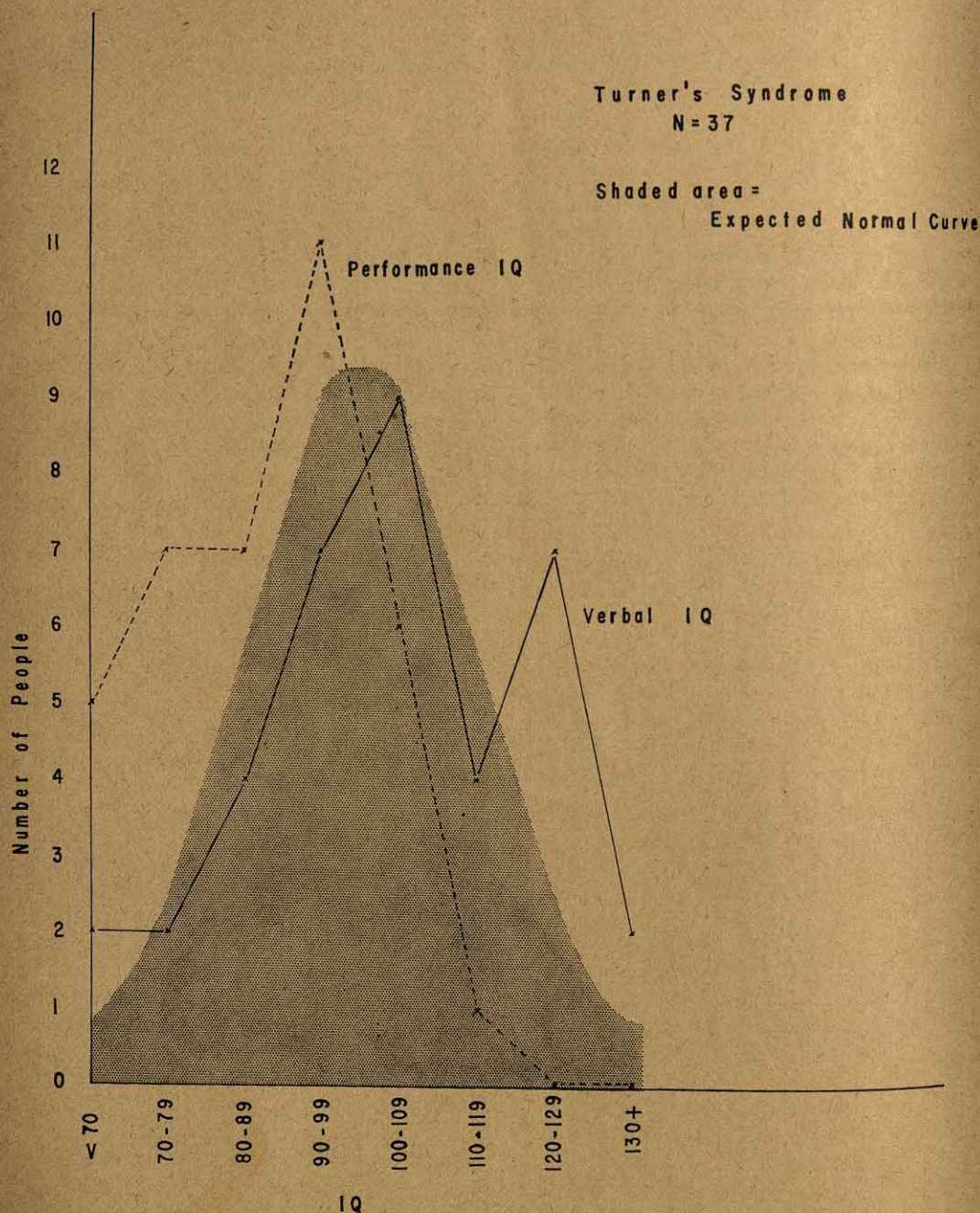
color blindness, which is carried on the X chromosome, I know of no other higher cognitional function which can be attributed to a particular chromosome. If this finding holds up, therefore, in the face of

further investigation, it has considerable potential significance.

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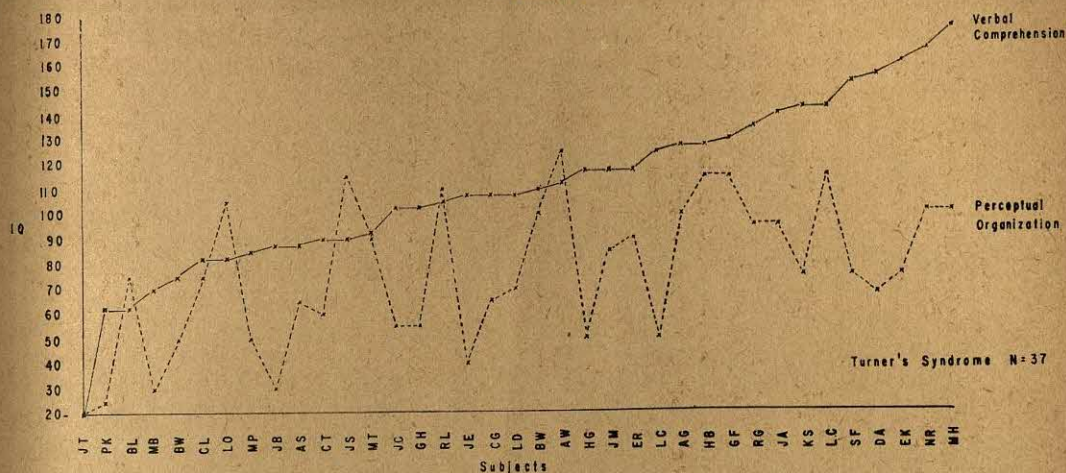
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FIGURE 6



Distribution of Verbal and Performance IQs of 37 cases of Turner's syndrome, as compared with their expected normal distribution.

FIGURE 7



Distribution of scores for Verbal Comprehension and Perceptual Organization of 37 Cases of Turner's syndrome.

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GENES AND THE PSYCHE : PERSPECTIVES IN HUMAN DEVELOPMENT AND BEHAVIOR ¹

GEORGE C. HAM, M.D.²

At the beginning of this century, two scientific trends began which were destined to have outstanding effect on man's concept of his own development and adaptation. Each of these discoveries and the associated concepts were destined to have a unifying and clarifying effect on many other disciplines of science considered until that time as distinct, self-contained and relatively unrelated. One of these trends, psychoanalysis, is quite familiar to all of us. The other, genetics, and particularly human genetics, has been little understood, little appreciated, and, like an unwanted relative who must be avowed as a member of the family, has been largely ignored in psychiatry.

It is unnecessary to trace the history and the effects of Freud's discoveries upon our understanding of man and of men. The concepts of instinctual drives, the unconscious, the mechanisms of the ego, the superego and ego ideal, of transference and countertransference, of psychosexual development, and of others too numerous to list here, are now familiar to us all and incorporated as basic unifying principles of modern dynamic psychology. These principles and their development as they permeated through, and into the body of medicine, and particularly into the discipline of psychiatry, have given life and dynamic energy to the understanding of man and his mental aberrations. An active, hopeful attitude has replaced the relatively hopeless and static view of fixed, unmalleable and predetermined man. These principles, in somewhat altered form, and sometimes in altered words, have become incorporated in the thinking and attitude of scientists and scholars in disciplines not directly included in the field of medicine. These include academic psychology, soci-

ology, anthropology, political science, the humanities, religion and many others.

As a consequence of the rapid development of psychodynamics, there have been some extremely interesting, and, in my opinion, unfortunate consequences. Outstanding among these has been the almost exclusive focus on the psychological experiential component of human life with particular emphasis on the first 5 or 6 years of existence. Interestingly enough, these factors are referred to as "genetic" factors, which has created some semantic confusion. There is absolutely no doubt of the validity of the part played by the reaction of the growing individual to his internal and external experiences in the formation of his personality and his adaptive qualities. However, there is evidence that emphasis upon these experiential aspects, mostly in a psychological sense, has excluded other factors which are necessary to more complete understanding of adaptation, development and the human condition. A second consequence of the emphasis on human experiential events as the determinant of operational explanations is the little expressed but somewhat necessary assumption that the human being at birth largely represents a biologically standard product. It is then assumed that on this *tabula rasa* will be written with the pen of life's vicissitudes, the determining factors for future success or failure of this particular individual. Most outstanding has been the de-emphasis of the understanding of biological variation of the human organism as a necessary component of man's growth, development, adaptation and success. Included in this biological inattention has been and is the great binding mordant of all biology—genetics.

The meteoric growth of knowledge in the field of genetics in the past several decades, and in particular, the last 10 years, indicates the burgeoning dynamic and adaptive facts related to our present day genetic knowledge. Over the past several decades, several roads have been followed in the search for

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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genetic truth. Recent events have led these various pathways to a common goal, thriving with movement, activity and understandable interrelationships.

Derived from Mendelian theory and the genetic studies of plants and animals which have made possible our tremendous agricultural and animal husbandry developments, there arose the study of man. By the detection of various structural abnormalities in individuals—phenotypes—and using the principles of Mendelian inheritance as related to dominant and recessive characteristics, it has become possible to trace family pedigrees and demonstrate genetic linkage and genotypes. At the present time the number of known gene linked abnormalities in man is over several hundred. These studies have demonstrated that there are lethal genes in the population, which, if present in both of a pair of chromosomes—the homozygous condition—can lead to death of the individual. If present in only one chromosome—the heterozygous state—they may not be expressed in any demonstrable way. However, they may reveal themselves if particular stress is placed upon the system related to the products of the particular gene or genes, as in primaquine sensitivity or porphyria following administration of barbiturates.

As in plants and animals, it is now known that in-breeding in human beings tends to accumulate lethal genes in the homozygous condition increasing markedly the danger of nonviable or markedly defective progeny. In contrast to this is the knowledge of the effect of out-breeding, which through heterozygosity, reduces visible expression of the lethals in the population, and decreases the chance of appearance of abnormal genetic material in the progeny.

It is of some interest that two of the concepts developed by Freud, although explained on socio-psychodynamic principles, have as their end result the prevention of in-breeding and homozygosity and the increase in out-breeding and heterozygosity. I refer to the Oedipus complex and the taboo against incest described in *Totem and Taboo*.

The obvious difficulty of experimentation with human material in a controlled fashion such as can be done with lower organisms

led to the study of human twins. Knowledge that monozygotic twins each shared similar genetic material, in contrast to dizygotic twins, permitted the study of concordance rates of phenotypic characteristics. Outstanding contributions in this area have been made by Kallmann, Penrose, Slater, Gedda, Böök and others. Although arguments still continue in terms of the exact genetic mechanism involved, *i.e.*, single recessive gene versus many genes, the data available, depending somewhat upon the statistical method used, indicate that there are important genetic factors in such syndromes as schizophrenia, manic-depressive psychoses, homosexuality and intelligence. These studies further indicate that one of the outstanding difficulties in such research is the lack of quantitation at a descriptive and clinical level of these entities, making correlation statistically difficult, and, even more importantly, conceptually confusing. The development of methods of categorization of these illnesses in multiple factors remains an essential component for evaluation of genetic correlation of the future.

Paralleling the development of population genetics has been the field of cytogenetics. Optical and electron microscopy, and x-ray diffraction have produced dramatic morphological information and have made possible discoveries and knowledge at the molecular level. The clear demonstration of the chromosomes and their behavior during the formation of the gametes in meiosis led to the understanding of the way in which genetic material is transmitted from the male and female into the zygote. The principles of segregation, of crossing over between chromosomes, of non-disjunction, and many other phenomena were clarified. The process of mitosis and cell division and embryological differentiation is yielding exciting growth in our knowledge of factors influencing fetal development, and, therefore, of the potential of the postnatal organism. Methods of tissue culture of various body cells, their treatment with colchicine and hypotonic swelling, allowed the study of the number of chromosomes in the human karyotype and have identified the number of autosomal chromosomes and the two sex chromosomes. Interestingly enough, it was only in 1957

that the final number of chromosomes in man was determined. This consists of 22 pairs of autosomal chromosomes, one set from the mother, one set from the father, and two sex chromosomes, either XX or XY, determining femaleness or maleness, respectively. Further study indicated the presence of chromatin material that could be detected by simple microscopic examination of smeared cells from the buccal mucosa and other cells that would indicate the presence of genetic femaleness.

Coincident with these technical and conceptual developments came the demonstration of gene loci carried on the chromosomes. Detailed study of genes in *drosophila*, in phage, in *neurospora*, and in various bacteria such as *e. coli* have allowed exact determination of structure and function of this gene material. Exciting experiments in the manipulation of the genes in their rearrangement on the chromosome and the study of the effects have led to knowledge in terms of transformation of genic material, and on the subsequent products of this altered state in the growth and development and metabolic potential of the progeny.

Paralleling these studies has been the amazing growth of biochemical and molecular genetics. In the early part of the century a man of great insight named Garrod developed a concept and coined the term, "inborn errors of metabolism." He suggested that four metabolic disorders—albinism, alkaptonuria, cystinuria and pentosuria—had certain features in common. First, in all four conditions the onset of the particular abnormality could be dated to the first days or weeks of life, especially when a special effort was made to do so. The second characteristic was their familial occurrence in a considerable number of cases. The third feature was that the conditions were relatively benign and compatible with a normal life expectancy. A fourth feature, noted by other clinicians in his day, was the frequency with which these disorders occurred among the offspring of consanguineous marriages. What was a supposition in Garrod's time regarding the original four inborn errors of metabolism has now become fact. Well over 50 gene determined metabolic abnormalities in man are known.

We know a great deal about how these conditions are transmitted from one generation to another, and also about the varied biochemical processes responsible for these changes. These inborn errors of metabolism have been shown with reasonable certainty to result from mutation of genes. The effects may be present in either an absolute or relative sense. In other words, there may be an absolute absence of a necessary metabolic step, leading to the accumulation of products that otherwise would have been metabolized. This accumulating abnormal metabolic product may be revealed in secondary clinical effects, such as in phenylketonuria. In this condition there is an enzyme missing known as phenylalanine hydroxylase. The clinical symptom is that of mental deficiency. The compound that accumulates is phenylalanine and its derivatives, and the treatment is the removal of phenylalanine from the diet. Or, in the case of diabetes, insulin is the missing protein. The associated clinical symptoms are well known and the treatment is to replace the missing, or defective protein. Here the clinical syndrome occurs in varying degrees and appears at different times in the life cycle in various individuals. Porphyrria may be present in absolute sense or may be shown to be present in a latent sense as evidenced by abnormalities in the quantity of the precursors of this substance in the blood and urine of pedigree relations. This condition in latent or overt form is frequently associated with psychiatric disorders. Other latent or marginal metabolic abnormalities may be detected by loading the organism with substances which reveal gene determined inadequacies in various metabolic pathways.

Most recently has come the exciting discovery of the basic role of the desoxyribonucleic acid (DNA) contained in the genes. Time does not permit more than a cursory discussion of this fundamental discovery. The theory states that the hereditary "blueprints" of cell structure and function are coded within the cell nucleus as long chain molecules of DNA. These plans are transmitted in a series of steps to the cytoplasmic "assembly line," where they direct the synthesis of each cell's characteristic products. All DNA so far examined from bacteria to man have the same general plan;

namely, chains of only 4 nitrogen containing units. These are adenine, guanine, cytosine, and thymine. The specific order of these bases, like the order of letters and words, is meaningful. This hereditary "message" is written in a 4-letter alphabet. DNA can code itself during its replication, thus explaining both the passage of hereditary characteristics from one generation to the next, and the development of multicellular organisms. The DNA in the fertilized human ovum replicates itself thousands of billions of times to form myriad cells of the mature individual. Each cell contains a copy of the special message that makes for human beings, as well as for the uniqueness of the individual. The information contained in the DNA molecules is transferred to ribonucleic acid (RNA) and thence to microsomes in the cytoplasm of the cell. RNA also consists of 4 bases, 3 of them the same as DNA, but instead of thymine, RNA has uracil. Thus, the order of the bases in the DNA determines the order of the bases in the RNA, and this in turn determines the selection and order of amino acid chains in the synthesis of enzymes and other proteins. The properties of proteins are determined by the sequence of their hundreds of thousands of component units, each derived from one of the 20 amino acids. This theory and the technical discoveries associated with it, and its emerging experimental proof, are giving us the answer to the intricate process by which structure and function of living organisms are shaped. We may expect in time to decipher the entire set of instructions by which genetic messengers direct the manufacture of proteins and enzymes, the basic stuff of life.

Although presented in only broad outline form, the evidence before us, and accumulating daily, brings us full circle from the erroneous concept of genetic inheritance as static, fixed and unalterable, to a recognition of a dynamic and adaptive science similar to that outlined earlier in terms of psychodynamics and experiential factors. Let us approach this from a somewhat different viewpoint. We know that the total functioning of the human organism is dependent upon the many billions of highly different cells organized into organs and

systems. These are made of protein and other compounds. These organs and systems and the cells they contain depend upon enzymes numbered in the hundreds for maintenance, for cell reproduction and for integration of the entire organism. We have seen that these enzymes and proteins are manufactured in the cytoplasm of the dividing cell under the influence of RNA. This RNA pattern, determining the order of polypeptides into chains of proteins, is dependent upon the availability of the necessary substances in the substrate, the cytoplasm, such as amino acids. The RNA code in turn is determined by the DNA from the nucleus of the cell and specifically, from the particular gene controlling that particular synthetic process. Alterations in the final product, the enzyme or the protein, can result from vicissitudes related to the disturbances in substrate available for coding by RNA with consequent minimal defects and deficiencies or gross abnormalities. Likewise, through the inheritance of mutant genes, or lethal genes, the DNA signal produces defective RNA and consequent defective gene products. Some of the factors that may be involved in these processes have been alluded to earlier. The end result, however, is that either at the chromosomal level, carrying one or many defective genes, or at the developmental level in cell division following fertilization, or during embryologic development, or postnatal replacement of enzymes, proteins and cells, there may be disturbances in substrate environment for synthesis. The end result may be widely varying, qualitative, and possibly quantitative protein and enzyme structure. Enzymes may be produced which, with minimal stress on the system, are sufficient to carry out their necessary function, as in sub-clinical diabetes. Under specific stress, however, the system may fail and the organism will reveal a secondary metabolic abnormality and its consequences to the total organism. Thus we are *not* a standard, fixed product in terms of enzyme systems and metabolic responses. This fact has been demonstrated by the biochemist Williams and his co-workers in Texas. They have been able to demonstrate that when many systems are measured, there is biochemical individuality rather than sameness. Thus we

may actually vary in many ways and yet be considered phenotypically normal.

Since all processes in human life, including psychological and behavioral activity, are mediated by structures made of protein and related compounds, and directed and controlled by other proteins as enzymes, these factors take on significance in understanding any aspect of man. Continuing this line of thought, one can then postulate that those aspects of man viewed through the psychological objective of our investigating microscope or those behavioral characteristics revealed by a sociological or anthropological examination are mediated through, and in part determined by, these basic protein and enzyme systems. We know that replication of specific protein molecules occurs in the day to day death and replacement of cells and is controlled by DNA, RNA and polypeptides systems. This process is a dynamic reaction between genetic message, substrate and local controlling factors. Can this knowledge add to our understanding of their composite resultant; namely, psychological mechanisms, personality aggregates and social behavior?

Perhaps a piece of evidence indicating genetic control of instinctual behavior in African parrots (1, 2) related to cross-breeding of two variants within the same species will indicate to us the potentialities of such basic mechanisms and the promise for extended understanding of instinctual behavior of man. One variant of parrot, in the adult stage at nesting time, instinctively tucks nest material in the feathers of the lower back or rump in carrying it to the nest. Another variant instinctively carries such material, one piece at a time, in the bill. Inter-breeding between these two variants produces in most of the hybrid females a bird who shows what may be termed "instinct confusion." The F_1 hybrid females almost always attempt to tuck nesting material in the feathers but are never successful in carrying it this way for several reasons (2):

- (1) Proper movements for tucking are made, but the bird seems unable to let go of the strip even after repeated attempts at tucking;
- (2) The strip is tucked but soon falls out—usually while the bird is busy cutting the next one;
- (3) Tucking is attempted at locations

other than the lower back and rump—a more "primitive" or ancestral pattern; (4) The strip is grasped somewhere other than at one end, making proper tucking impossible; (5) Tucking movements are begun; but the behavior gradually merges into preening movements, and the strip falls unnoticed to the ground; (6) Tucking-intention movements are made but not completed; (7) Inappropriate objects such as twigs are tucked; and (8) Sometimes the bird attempts to get its bill near its rump by running backward. These hybrids are only successful in carrying material in the mouth. After two years of this behavior, in the presence of both normal *fischeri* and *roseicollis* females, these hybrids have not learned to carry nesting material more efficiently and still spend as much time in attempting to tuck before flying off with a single piece. This is interesting as these birds are amazingly quick to learn new behaviors in other contexts such as opening cage doors, evading capture, and so on. They are also favorite birds for use in trained-bird acts where they are easily taught all manner of tricks such as riding miniature railroad trains, washing clothes, posting letters, and pushing little wagons. The hybrids give every indication of being as quick to learn such behaviors. This merely emphasizes the fact that abilities to learn various behaviors do not extend equally throughout the entire spectrum of an animal's activities.

A second example is in the field of imprinting, a subject which has been of some interest in recent years. Recent evidence (3, 4) indicates that ease or difficulty in imprinting of ducklings, for example, is, in part, genetic and the progeny of the imprinters is more easily imprinted than that of the non-imprinters. Recent studies have suggested a relationship between the quantity of RNA in the cells and the ability to imprint.

A recent and highly intriguing hypothesis and experiment by Dingman and Sporn (5) on the possible biochemical basis of memory in relation to RNA is of great importance. They postulate that memory traces in the nervous system are produced by the formation of altered RNA molecules. Their experiment consisted of introducing into the cistern of rats a substance which is known to interfere with the normal RNA molecule, and consequently produce altered protein products. They were able to demonstrate that such interference with the brain RNA

in the living rat did not depress the rat's ability to perform and recall a previously well learned maze but did decrease the rat's ability to learn a new maze. Although rudimentary, this experiment and these data can have far reaching results.

The studies of Corning and John(6) on Planarians are of great significance. Planaria have the ability to regenerate a complete organism after transection. The head bearing portion regenerates a new tail section, and the tail section regenerates a new head section. This organism is capable of learning both a classical conditioned response and a T maze. It was discovered that when cut in half and allowed to regenerate both the new head and tail sections retained the previously conditioned response. "Conditioned Planarians were transected and allowed to regenerate in a ribonuclease solution or in pond water. Heads which had regenerated in ribonuclease displayed a retention level equal to that of head and tail sections which had regenerated in pond water. However, tails regenerated in ribonuclease performed randomly although they could be retrained to criterion." These studies strongly suggest that RNA may be the substance involved in information transfer of conditioned behavior in the regenerated transected animal.

On the basis of the material presented I would like to offer several suggestions and speculations to indicate the importance of the addition of the dimension of modern dynamic genetics to the further understanding of psychiatric illness and treatment:

First, we have become too quickly disillusioned because we have not found clear-cut evidence of simple single gene inheritance as a determinant of psychiatric syndromes. Secondly, we will benefit greatly by thinking in terms of the known genetic principles in the study of our patients and their families. This includes pedigree study of any behavioral, psychological or overt or latent metabolic abnormality that can be detected and quantified. Third, the reaction types of psychiatric illness from schizophrenia through the various neuroses and behavior disorders will be further understood if we recognize that polygenic or multiple gene effects are involved. The result is that the basic protein and enzyme

structures through which psychological work and behavior are mediated can vary, qualitatively and quantitatively. I suggest that it is the interactions between many systems at the polypeptide and RNA level as well as the DNA level that will give us our clues. I further suggest that changes in psychological or social behavior of individuals secondary to life experiences or to psychotherapy may, in time, be understood more fully by determining alterations in the local environment of RNA and polypeptide synthesis resulting from "psychomolecular" influences. To be more specific, can it be that the successful results of psychotherapy which results in an altered psychological and physiological response to a standard stimulus are the result of a gradual and continuous corrective *message* on existing proteins and enzymes, or even the formation of *new* protein and enzyme in critical cells or systems? Many of us have been impressed by the apparent desensitizing aspect of successful psychotherapy in altering a standard biochemical, physiological, psychological and behavioral response of an individual. Can it be that we have approached more closely the bridge between the symbolic and the molecular?

I have attempted to draw parallels between one dynamic science and its disillusionment in biology—psychodynamics—with another basic biological science—genetics—which from a static position of some disillusionment, in the eyes of many, has grown into a virile dynamic and adaptive science that offers an extension of our understanding of human psychological mechanisms and their behavior.

In conclusion an analogy, suggested, in part, by a geneticist and colleague, Dr. Edward Glassman, may help clarify the principles suggested previously. Let us suppose that the development of a paranoid schizophrenic reaction requires the accumulation by the individual involved of 100 points to become apparent. These points are acquired from interaction between nature and nurture. Let us suppose, in a given individual, that 25 points are determined by several fixed, unalterable genes and their structural and biochemical products. Let us call these basic *qualitative* gene points. Then let us say that 50 points are dependent on the rela-

tionship between *quantitative* variations of a number of other gene products at the RNA and polypeptide synthesis level. The variation in these gene products is a function of reaction of these systems to the daily internal and external environment of the individual. This includes the primary physical and chemical stresses and adaptive demands of human living. The remaining 25 points required to reach 100 can be related to alteration in RNA and protein products, as discussed earlier, in certain *critical cells or metabolic systems* in reaction to specific psychocellular responses. Thus, "person-specific" critical life situations and their symbolic meaning and reverberations would determine, via neural and histochemical processes, these last essential alterations. When these are added to the basic qualitative 25 points and the 50 adaptive quantitative points, the schizophrenic reaction is precipitated. Conversely, reduction in any of the point accumulations would result in amelioration of the reaction.

Different point systems may be critical for different individuals. If the 25 basic fixed qualitative points are not present, that individual might never be affected, even if the other two categories were present in higher numbers. Another individual may start with 75 points of unalterable base predisposition genetically and require only minor alteration in the adaptive or the psy-

chocellular fraction to develop the schizophrenic response. This analogy can be applied to all illnesses. The question of the quantity of smoking and lung cancer can be expressed the same way, *e.g.*, some people start with 75 genetic cancer points and need 25 adaptive environmental points from mild smoking to reach 100. Others may start with five or ten fixed genetic points and could never smoke enough to produce the change involved. This analogy and the concept of psychocellular response of RNA and its products by no means answers our questions. However, it serves as a model for our thinking and the investigation of genetic dynamics and psychodynamics as interacting and mutually dependent factors. This modern genetic dimension will, I believe, become an outstanding factor in our search for truth in the field of human behavior and psychiatric illness.

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SCHIZOPHRENIC-LIKE MECHANISMS IN MONKEYS¹

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Biochemical Background. The study of biologic mechanisms in schizophrenic patients is being actively pursued in many centers at the present time. One particular area of investigation, the control of certain phases of carbohydrate metabolism, has been discussed previously by several of the present authors (1, 2, 6, 9). These studies have suggested that a factor in the blood plasma of schizophrenic patients interferes with the metabolism of normal cells (6, 7). The following is a brief outline of the method being used in current attempts to study this factor. Blood plasma is obtained from the subjects. One cc. of this plasma is incubated for one hour with 4 cc. of washed erythrocytes obtained from chickens. These erythrocytes represent a homogeneous sample of normal cells. Following the incubation, measurements are made of lactate and pyruvate produced by the chicken cells. The results are expressed as a lactate-pyruvate ratio (L/P ratio). It has been found that the ratio is low when cells are incubated in plasma from control subjects and high when plasma from schizophrenic subjects is used. The precise enzymes involved are not known at present, but the search for their identification continues intensively. It is possible that interference with hydrogen-transport systems may be involved (7).

Another very important unanswered question concerns the identity of the factor in the plasma of schizophrenic patients which is responsible for the elevated L/P ratio. Information to date indicates that

this factor is closely related to the alpha-globulins; again active investigative work continues.

Clinical Aspects of the Studies. To gain maximum information from these various biochemical studies, attempts have been made to relate the findings to the clinical picture. Ratings of clinical information, including important aspects of the history, were made on a large number of rating scales. The scales have been described previously (3). It has been reported elsewhere that the primary symptoms, and some aspects of the course and of the history, have been found to be significantly related to certain biochemical measures (1, 2).

One of the most interesting of these findings has concerned the historical information. When relationships between biochemical abnormality and historical information concerning the patient's early life were examined, it became apparent that the data showed a trend: biochemical abnormality in the adult schizophrenic subject appeared to be associated with clinical ratings which indicated a quiet, monotonous, unvarying, nonstimulating very early life (1). Specifically, high scores on the scales listed in Table 1 were associated with biochemical

TABLE 1

Clinical Measures of the Rearing Environment

1. Degree of social and economic security in the rearing environment
2. Feelings of dependency on the mother
3. Degree of continuity and responsibility, and physical stability in the early relationship between the mother and the patient
4. Degree of favoritism by the mother
5. Absence of beatings by the mother
6. Degree of overprotection and overindulgence by the mother

abnormality. These relationships were not strong; nevertheless, they seemed worthy of serious consideration. In a previous report the suggestion was made that such a monotonous early life might fail to produce the stimulation necessary for the proper

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maturation of certain enzyme systems(1). It is most likely that infancy and early childhood is the period involved.

The historical information used in this study was of course retrospective. As such it is notoriously open to bias, both from the viewpoint of the subject's recollection and of the clinician's theoretical framework. Also, the observed relationships were only suggestive; they did not indicate a strong relation. A prospective clinical study might, in theory, resolve some of these difficulties, but such a study would be almost impossible to do. Were there any other possibilities—could the questions raised by the above study be answered in any other way? Several recent experimental studies of animals suggested that perhaps this could be done.

Relevant Animal Studies. There is evidence that the plasma factor found in schizophrenia is in some way involved with the globulin fraction of the plasma proteins(8). It is also known from the experiments with germ-free animals that environmental influences, for instance the presence of exogenous bacterial antigens, play an important role in the development of normal amounts of these proteins(20, 21). While these experiments are far removed from schizophrenia (and it is not being suggested that bacterial antigens are involved), they do suggest that an environmental influence might possibly affect a plasma globulin factor.

The well-known experiments of Levine, *et al.*, on rats are also relevant(16-19). This work has provided evidence that lack of stimulation in infancy, principally tactile stimulation, leads to a slower maturation of several biologic systems and to lessened resistance to physical deprivation. There is also a great deal of evidence that various manipulations in early life lead to long-lasting behavioral changes(5, 16).

The Primate Laboratory of the University of Wisconsin has been rearing rhesus monkeys under carefully controlled and, in certain instances, very isolated circumstances for a number of years. The conditions of these experiments and the details of the rearing have been reported previously (4, 11, 13). It has also been reported that some of the animals reared under conditions of social isolation, *i.e.*, alone in a cage, with

or without an inanimate mother surrogate, show bizarre behavior and social withdrawal as adults(12). This combination of circumstances, 1) the availability of a group of rhesus monkeys reared under conditions of quite extreme social isolation and tactile monotony, and 2) the fact that some of these animals showed bizarre behavior when adults, suggested a nonclinical and objective way of answering the questions raised by the clinical-historical data. Are any aspects of a controlled early environment that is known to be nonstimulating and monotonous related to the factor found in the blood of schizophrenic patients? An objective biochemical method of testing for the factor was available, and a group of monkeys reared under known and controlled conditions of social isolation and tactile monotony was available also. Hence it was possible to predict that monkeys reared in this isolated way might show the factor, and a group of control normally reared monkeys might not show the factor. An experiment was therefore set up to test this hypothesis.

Method. The study used the biochemical facilities of the Primate Laboratory in Madison, Wis. The subjects were 31 male rhesus monkeys. All animals were housed in the laboratory in cages 30 in. by 30 in. by 27 in. The diet of all was identical, consisting of Purina monkey chow daily, and apples or lettuce three times a week. In addition each animal received a daily "vitamin sandwich" which contained 18,000 units of vitamin A, 4 mg. of thiamine, 2 mg. of riboflavin, 40 mg. of nicotinamide, 50 mg. of ascorbic acid, 3,600 units of vitamin D, 20 mg. of folic acid, 4 grains of ferric ammonium citrate, 35 mg. of isoniazid, and powdered milk, on half a slice of bread. The animals had been receiving no other medication for at least two months before the study. Isoniazid might possibly affect the biochemical system in question; this drug was received by all animals, however, so that group differences can presumably not be explained on this basis.

Blood samples from the animals were in all cases presented to the biochemistry laboratory identified only by a code number. On each of two visits to the Primate Laboratory the code was not broken until

after all animals had been studied.

The 31 animals were divided into four groups as follows :

The 11 monkeys in the *control group* had been reared under natural conditions in the wild and captured between ages 2-4 years. These animals were approximately between 3 and 10 years old at time of test and weighed between 3.98 and 13.05 kg. The rhesus monkey reared in the wild is an alert, aggressive and vicious animal. The male is antagonistic toward people and other males and is ready to attack anything or anybody not to his liking. When threatened he lays back his ears, bares his teeth and attacks. Because of these aggressive qualities blood was drawn from 10 of the 11 control animals in a squeeze cage. All wild raised monkeys, male and female, show normal sex behavior; that is characterized in the male by dorsoventral mounting, clasping the legs of the female by the feet, and holding the buttocks by the hands while achieving intromission.

The *surrogate group* consisted of 10 animals born in the Primate Laboratory. The conditions of their birth and neonatal care have been described elsewhere(4). The infants were separated from the mother at birth and placed in cages 18 in. by 18 in. by 24 in. All were in the same room where they could see and hear—but not touch—each other and experimenters walking through the room. An external source of heat has been found to be necessary for neonatal monkeys. A heating pad covered with a diaper was therefore provided for the first 15 days.

In the cage with the infant animals were placed inanimate mother surrogates. These were of various types as described elsewhere(10, 11). However, all the animals used in the present study had access in their home cage to a cloth mother surrogate for a significant part of their rearing. Two animals (#64 and #67, see Table 2) had no access to a mother surrogate until 250 days of age. Two other animals (#69 and #71, Table 2) had no access to a mother surrogate after 160 days. The remaining animals had a mother surrogate continuously available in the home cage.

All the infants had extensive training experiences beginning in their first week.

These experiments included maze performance and object discrimination tests both in the Wisconsin General Test Apparatus and in other situations. None of these animals had any shock conditioning experiences; all the learning was for reward(13).

At the time of study these animals ranged in age from 3 years 4 months to 4 years 1 month. They weighed between 2.80 and 7.37 kg. Their behavior showed a number of abnormalities including repetitive stereotyped circling movements about the cage, clasping the head with the hands, rocking in autistic-like movements, and chewing on their own arm or leg as a response to fear or external threat. These animals engage in excessive masturbation and some vomit food intentionally. No appropriate heterosexual behavior is observed when these males are placed with females. Mounting is random with respect to the body of the females and complete copulation never occurs.

The blood samples were drawn not in a squeeze cage but by having animal handlers hold the animal. While no precise measurements were made, it was our impression that these two techniques led to an approximately equal amount of muscular activity on the part of the animal.

The remaining 10 animals were all born in the laboratory under the same conditions as the previous group and then raised in similar single cages except that no surrogate mother was provided. As in the surrogate group the infants could see and hear activity around them but could not participate. After 15 days their only tactile contact in the home cage was the wire mesh of the cage itself. All had extensive learning tests, as in the surrogate group, beginning in the first weeks of life.

In behavior at present these animals present a picture of emotional disturbance that is similar to the surrogate group but is rather more extreme. They sit and stare fixedly into space, bury their heads in their arms while engaging in rocking, or tear at themselves and beat their heads against the cage in self-destructive reactions. These responses to the laboratory staff or even other monkeys may be so severe as to produce bleeding lacerations. Although masturbation occurs frequently, often by

males and females in the same cage, no normal heterosexual activity is seen. The males will not appropriately mount experienced cooperative breeding colony females and never achieve intromission.

An important experiential variable divided these 10 animals into two groups. During the first two or three months of life 4 of them had been exposed to a shock conditioning experience. This consisted of a shock paired with a tone which was administered through the floor of the cage. Ten trials a day on 5 days a week were given for a month. The details have been reported elsewhere (13). The 4 animals who had this experience are being called for the purpose of this paper the *shock group*. At the time of study their ages ranged from 3 years 5 months to 6 years 2 months, and their weights ranged from 5.99 to 7.60 kg.

The remaining 6 animals were also raised in a cage devoid of either a natural or surrogate mother but did *not* have this shock conditioning experience. Their ages ranged from 4 years 7 months to 5 years 6 months, and weights from 5.92 to 7.04 kg. For purposes of this paper they are called the *non-shock group*.

Analysis of Data. At present 31 animals have been tested. The goal has been to test each animal twice but owing to laboratory and other difficulties this repeat study has

only been possible for 24 animals. It is hoped to correct this deficiency, and to add more animals to the shock and nonshock groups in the very near future.⁴

In Table 2 the L/P ratios are given on each animal for both the first and the second tests together with the mean L/P ratio. For

⁴ With this in mind a third visit of the Lafayette Clinic group to the Primate Laboratory was made on Feb. 27-Mar. 1, 1962. This visit coincided with a spell of exceptionally cold weather with maximum daytime temperatures around 0° and minimum night-time temperatures of 20° below zero. The chickens which were available and which provided the erythrocytes had been housed in poorly heated or unheated quarters. They were found to have about three times as many erythrocytes as usual (their hematocrit being 45% instead of the usual 15%). The L/P ratios produced by these cells were widely beyond the expected range. This led us to doubt the reliability of the results.

To check on this in early March some chickens which had been housed outside in zero weather were obtained from upper Michigan. They were studied in the Lafayette Clinic laboratories and were also found to have very high hematocrit readings. Tests using these chicken erythrocytes with the plasma from well studied control and schizophrenic subjects indicate that a different substance appeared to be driving the significant reactions. It is concluded that the Feb. 27-Mar. 1 data on the monkeys are unreliable, and that a further effort must be made to complete the study using chickens raised under more controlled conditions.

TABLE 2
Lactate-Pyruvate Ratios on Four Groups of Rhesus Monkeys

CONTROL				SURROGATE				SHOCK				NONSHOCK			
ANIMAL NO.	1ST TEST	2ND TEST	MEAN	ANIMAL NO.	1ST TEST	2ND TEST	MEAN	ANIMAL NO.	1ST TEST	2ND TEST	MEAN	ANIMAL NO.	1ST TEST	2ND TEST	MEAN
501	—	4.2	4.2	69	2.6	5.0	3.8	15	3.0	0	1.5	28	27.3	6.7	17.0
494	—	5.2	5.2	71	6.7	4.1	5.4	25	2.0	0.4	1.2	44	5.4	22.7	14.0
R-64	—	1.3	1.3	77	3.5	3.3	3.4	46	3.9	1.4	2.6	41	18.5	1.6	10.0
R-68	—	5.6	5.6	64	1.2	1.7	1.4	50	7.4	2.2	4.8	53	10.8	26.6	16.2
530	3.3	—	3.3	67	10.0	5.2	7.6					30	17.2	50.5	33.8
331	0.5	3.6	2.0	78	23.5	7.6	15.5					23	30.8	1.1	15.9
R-58	1.5	—	1.5	79	2.8	0	1.4								
527	27.4	26.9	27.1	80	3.6	4.5	4.0								
368	5.3	1.8	3.5	86	5.8	35.4	20.6								
R-16	0	2.6	1.3	83	2.6	2.1	2.3								
496	—	10.3	10.3												
Group Mean															
L/P Ratios			5.94				6.54				2.52				17.82

— Indicates missing data because of biochemical laboratory difficulties.

each group of animals a mean L/P ratio is also given; this mean is used in the tests of significance between groups.

Results. Table 2 illustrates that the mean L/P ratio for the control group is 5.94, for the surrogate group 6.54, for the shock group 2.52 and for the nonshock group 17.82. In attempting to assess the significance of these findings it must first be noted that in addition to the fact that the groups are small, in both the control and surrogate groups the distribution of mean scores is not normal. Hence if tests of significance are to be made nonparametric methods must be used. Using the median test with the chi-square corrected for small cell frequencies, the control group was significantly different from the nonshock group at the 1% level of confidence. The surrogate group was also significantly different from the nonshock group at the 1% level. The mean scores in the shock and nonshock groups are approximately normally distributed. A t-test showed these scores to be significantly different from each other ($p < .01$) after correction for heterogeneity of variance.

On the other hand the mean L/P ratio of the shock group is not significantly different from either the control or the surrogate group.

The tests therefore indicate that the L/P ratios of the nonshock animals were significantly higher than the ratios of any other group and that the control, surrogate and shock groups were not significantly different from each other. Since only 6 animals have been studied so far in the nonshock group, however, the results must be interpreted with considerable caution.

DISCUSSION

The hypothesis that rhesus monkeys reared in conditions of social isolation and tactile monotony would show evidence of a metabolic disturbance which is consistent with the presence of a blood factor as found in schizophrenic patients was supported, although only a small group of animals reared under the most extreme conditions was available, and only these animals, as a group, showed the abnormality. It is likely that the present biochemical technique only identifies extreme conditions. More animals need to be studied; however, several points

can be made concerning the data thus far obtained.

There was no biochemical difference found between the control and surrogate animals. Thus jungle rearing versus laboratory rearing cannot by itself account for the findings. The control animals were on the average older and heavier than the surrogate group; their blood had to be drawn using a different technique—the squeeze cage. The results suggest that these factors were not of prime importance.

The shock and nonshock animals were of similar age and weight and were reared under very similar circumstances. Yet biochemical study showed differences, even though only small numbers are available so far. To attribute these differences to intense tactile stimulation in the form of a series of shocks to the feet and hands during infancy is consistent with the theory proposed at the beginning of this paper. The nonshock group which experienced maximum social isolation and minimum tactile stimulation would be expected to be most abnormal biochemically, and this is what was observed.

Is this result reasonable? Could intense tactile stimulation during infancy lead to the development of certain normal biochemical mechanisms? And on the other hand could lack of such stimulation be responsible for a biochemical deficit? Such results are indeed surprising but are not altogether without precedent. Levine's rats showed neurobiochemical changes persisting into adult life (19). Other experiments in the field of biochemistry have shown that, for instance, failure to expose young animals to any one of several substrates during a critical early life period may prevent the induction of the enzyme systems necessary to metabolize these substrates (14).

This abnormality in the nonshock animals may be related to social isolation and tactile monotony in infancy. After diligent search no other factor in the rearing or present handling of the animals has been uncovered which might account for the observed biochemical differences. This is particularly true of the differences between the nonshock group on the one hand, and the shock and surrogate groups on the other. However, it cannot be denied that some

unidentified difference in past experience, present physical handling, diet, *etc.*, could possibly exist. With this in mind the experiment has been repeated with another species of primates reared in a different laboratory; these data, which are supportive, will be reported elsewhere.

In addition, an important point must be answered. Behavioral peculiarities were observed in the animals in three groups, surrogate, shock and nonshock. This behavior is somewhat less disturbed in the surrogate group, and somewhat more disturbed in the other two groups, but at present no objective measures of these differences are immediately available. Yet biochemical abnormality was found only in the nonshock animals and not in either the surrogate or shock groups. If this biochemical abnormality is really related to the abnormality found in schizophrenia, why are not the behavioral disturbances and the biochemical disturbances more closely correlated?

This is a good question. It may be answered in several ways. First of all the disturbance of behavior is quite complex. Is it reasonable to expect a one-to-one relationship between a biochemical abnormality and such a complex behavioral disturbance in a primate? Most psychiatrists would probably agree that this is not likely, for such a theory would ignore the everyday clinical observation that much behavior is learned from experience. It is quite likely in fact that a great deal of the disturbed behavior of the monkeys is due to the absence in their experience of a suitable monkey model—a mother. Similarly, much of the disturbed behavior of schizophrenic patients is probably not biologically determined, but is environmentally acquired from constant exposure to family pathology.

Secondly, there are several biochemical reasons which make it unlikely that biology and behavior should be closely related, at least using present methods. In a previous study we found that one biochemical disturbance was present in a large majority of schizophrenic patients, while another disturbance was found only in those with more severe and chronic illness(2). The second of these two abnormalities is probably more closely comparable to the L/P ratio, and this may be another reason why an abnor-

mal L/P ratio was found only in the most severely isolated animals.

A further and related significant point is the following. Present evidence indicates that the L/P ratio is a relatively crude indicator which reflects only a maximum enzyme disturbance, the end result. A less severe disturbance in the enzyme system specifically concerned, and it must be remembered that the exact identity of this system has not as yet been determined, may not be reflected in an abnormal L/P ratio but in some other more subtle biochemical manner. It is to be hoped that in the future when more delicate biochemical techniques are available it may be possible to delineate this abnormality more precisely and perhaps demonstrate it in animals such as the surrogate group.

Thus the lack of close correlation between biochemical abnormality and behavioral disturbance allows several different but not necessarily mutually exclusive explanations; some of these emphasize the importance of advances in biochemical techniques, others the importance of detailed behavioral study.

In the control, surrogate, and shock groups there was in general good agreement between the first test and the second test (see Table 2). With a few exceptions all the L/P ratios were under 10. One control animal (#527) had a high ratio on each occasion. The reason for this is not clear. One surrogate animal (#78) had a high ratio on the first occasion, but a low ratio in the second study. On the other hand, another animal in the surrogate group (#86) was low in the first study, but high the second time. Any comment on this must be very tentative, but it can be suggested that the partially isolated conditions of surrogate rearing may predispose some biochemical system toward the occurrence of an abnormal ratio in later life under certain circumstances. It has already been noted that the L/P ratio is probably abnormal only if there is a serious disturbance in an important adaptive system; a less severe disturbance may not be detected using this method. Consequently the amount of stress requiring adaptation immediately preceding the individual study may have an important bearing on the degree of abnormality in the biochemical findings. This may well account

for some of the variability in the data, some animals having a greater response to stress than others. As a matter of fact this phenomenon of variability to stress is very characteristic of schizophrenia; data of this nature concerning the L/P ratio in patients and control subjects have recently been reported elsewhere (15).

It was noted that in the surrogate group animals #64 and #67 had no mother surrogate until 250 days of age, and #69 and #71 had no surrogate after 160 days. All these animals tested within the normal range. This result based on such small numbers does not answer one way or the other the important question of the duration of experience necessary to produce changes in the adaptive biologic system.

Finally Table 2 illustrates that in contrast to the other three groups the L/P ratios of the nonshock animals did *not* show close agreement between the first and second tests. Several individual animals varied considerably. Yet in the nonshock group every animal was clearly in the abnormal range on one or the other occasion. This finding also emphasizes the importance of stress immediately before the individual study, and points again to the similarity of response to stress of this measure in the nonshock group and in schizophrenia.

CONCLUSION

These preliminary results are of interest in that they relate a biochemical abnormality similar to the one found in schizophrenia to social isolation and an experimental lack of tactile stimulation in early life. It is important to note that in this study the biochemical defect was found not to be correlated closely with disturbed behavior, indicating amongst other things that the complexities of behavior probably have many other antecedents besides biochemical maladaptation.

Such antecedents must almost certainly include patterns of behavior learned from whatever models were available in the environment during psychologic maturation. Hopefully in future studies it will be possible to manipulate both these sets of variables with some precision. The interaction of biologic or general somatic factors,

and psychologic or learned factors, in the origins of disturbed behavior has always been a central issue for psychiatry. The present study may enable these problems to be approached using primates as an experimental model.

From the biologic point of view alone it would probably be very worthwhile to investigate the type, timing and intensity of stimulation necessary to produce the effect discussed in this paper. For instance is stimulation of certain areas of skin, such as the oral or genital areas, especially important? And what about other types of stimulation—proprioceptive, vestibular, visual or auditory? Is it possible that more complex experiences are significant such as the affective components of the perception of objects, or the learning of patterned responses? The scientific manipulation of both biologic and psychologic variables in a monkey colony might give answers to these questions, and to many others still unasked.

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PSYCHOTOMIMETIC DRUGS AND BRAIN BIOGENIC AMINES¹

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In the study of biochemical determinants of psychoses it is not compellingly clear what biochemical processes we ought to measure, where, when and in what rates and quantities we ought to measure them, nor what dimension of such a chosen measure *could* be correlated with specific organizations of psychological functions. Even for drug induced psychoses, we are as yet not sufficiently able to detail how biochemical change could become behaviorally manifest. Pharmacologic studies could be of model and heuristic value to the problem of the relationship of neurochemical states and behavioral states. They should broaden understanding of intrinsic biological mechanisms operative in behavior and suggest—both negatively and positively—the kind and order of relationships which may have to be sought in clinical disorders.

Between 1954 and 1956 a number of new observations and generative hypotheses were advanced concerning the relevance of endogenous amines of the brain to behavior. Woolley (1, 2) noted that LSD-25 and congeners were “structurally analogous” to serotonin and that they blocked, imitated or facilitated the effect of serotonin on various isolated peripheral tissues. He proposed that an excess or deficiency of serotonin in the brain would account for both drug-induced and clinically encountered mental dysfunction. In effect, an altered (but, in fact, probably unmeasurable) balance of the amine at the active receptor was to be etiologically involved. In a short time, some non-psychotogenic but psychoactive compounds such as reserpine or MAO inhibitors were found *actually* to increase or decrease levels of brain amines; the large decrease in levels induced by reserpine was correlated with a crudely

defined sedation(3); the increases due to the serotonin precursor or MAO inhibitors were correlated with various patterns and levels of excitement(4, 5). These excesses and deficiencies were measurable in the whole brain. They were not measured at a synaptic receptor, but a sequence of stimulating guessing games arose: what do the amines mean? By an often tortuous series of inferences, changes in whole brain levels became an index for knowledge of events at the active synaptic receptor and hence a canon was established whereby the physiologic and behavioral significance of changes in whole brain levels of a specific amine could be evaluated prior to data. This is metapharmacology—signally useful in launching research and bridging gaps in knowledge but limited as a substitute for empirically established sequences. In terms of measurable processes, we actually know very little even about acetylcholine even at peripheral receptors.

When we measure changes in levels of amines, we are measuring effects on a number of complicated processes prior to the active synaptic receptor. Many of these can be named, but are only beginning to be defined operationally(6-9). In speaking of the significance of changes in levels, Giarman and I(10) have felt it may be best to refer to changes in mechanisms regulating the traffic of amines within the subcellular compartments of a neurone. Total levels, then, will reflect the *net* result of these processes. In inferring the mode of action of a drug on endogenous chemicals located in cellular substructures, one should probably anticipate the general rule in pharmacology: that a drug has more than one action and more than one site of action. In speaking of receptors, we refer to sites of chemical interaction of a drug with components of a substructure (Figure 1). A drug, then, may influence intra- or intercellular transport of the amine or its precursors; influence accessibility to sites of synthesis, storage and inactivation; block or induce enzymes; and alter physical-

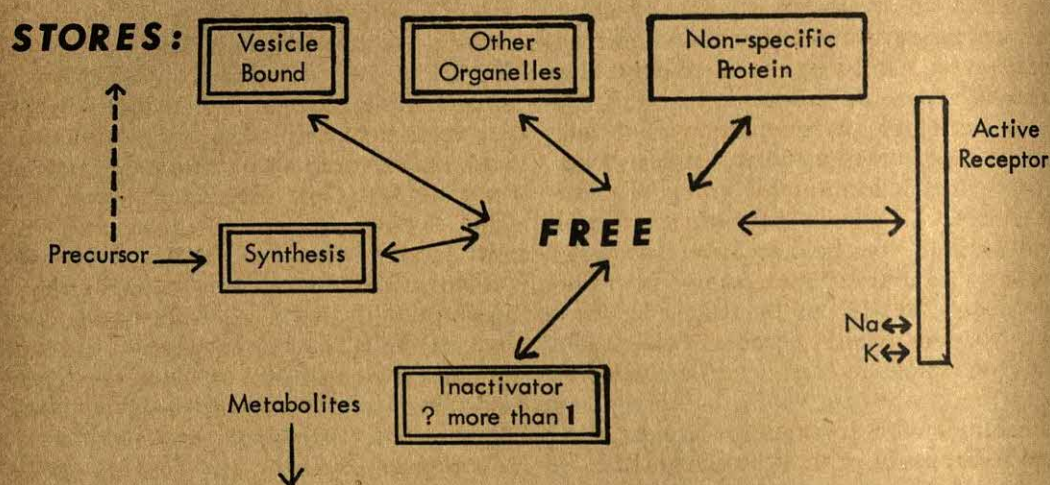
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FIGURE 1
MECHANISMS GOVERNING BRAIN AMINE LEVELS



chemical properties of membranes, ion flux, metabolic processes or rates of binding and release. Whatever the drug may do, we have little knowledge as yet about the intrinsic regulators of this traffic.

These studies were undertaken to see if a change in whole brain levels of serotonin and norepinephrine might reflect an effect of LSD-25 and other psychotogenic procedures on some of these intrinsic mechanisms governing these amines. There is evidence which shows that LSD-25 and congeners can influence levels of brain amines (7); that the status of these intrinsic mechanisms can, in turn, influence the

chemical, behavioral and autonomic response to LSD-25 (8); and finally, that the level of amines can be influenced by non-pharmacologic procedures (11).

Table 1 shows the effect of LSD-25 on the whole rat brain as determined by bioassay on the clam heart and by fluorimetric assay.³ In early studies, we were convinced of the reliability of small increases by noting the effect on brain levels 22 hours after reserpine had depleted stores of brain amines. LSD-25 increases brain serotonin

³ The methods for bioassay (7) and fluorimetric assays (28, 29) and the specific experimental designs (7, 10, 25).

TABLE 1
Effect of LSD-25 on Brain Amines

MEAN					
SEROTONIN	NUMBER	m μ g/gm	s.d.	Δ %	P
Bioassay					
Reserpine (1, 2, 4 mg/kg)	52	83	38		
R + LSD-25 (130, 520, 1300 μ g/kg)	77	190	66	+117%	<.001
Saline Control	50	365	78		
LSD-25 (130 μ g/kg)	43	450	101	+ 24%	<.02
Fluorimetric Assay					
Control	132	525	46		
LSD-25 (520-1300 μ g/kg)	175	628	57	+ 17%	<.001
NOREPINEPHRINE					
Control	8	560	54		
LSD-25 (1300 μ g/kg)	18	442	51	- 21%	<.01

Rats sacrificed 22 hours after reserpine (R) and 30-120' after LSD.

by 117%. When unpretreated rats are sacrificed at 10, 20, or 120 minutes following LSD-25 a 17%-24% increase is apparent with either assay; an increase of 80-100 $\mu\text{g/gm}$ is generally observed. The minimal effective dose and time for onset of *grossly* observable behavioral and autonomic effects is the threshold dose for measurement of increased levels of serotonin. Individual animals have not been matched for behavioral changes and concomitant brain change. Doses of 520-1300 $\mu\text{g/kg}$ lead to less variance (and perhaps longer sustained changes), but they do not differ significantly from the immediate effect of 130 or 260 $\mu\text{g/kg}$. Recent experiments show that LSD-25 leads to a decrease of levels of norepinephrine of 21%.

In studies with 18 rabbits, the serotonin increased approximately 100 $\mu\text{g/gm}$ or 13%, the same absolute increase in quantity noted in rats, but a smaller percentage increase; Siva-Sankar (12, 13) had previously reported such elevations in regional areas of the rabbit brain. In this species we find effects on norepinephrine which are marked; *i.e.*, a decrease of 30% at 2 hours and 55% at 6 hours. The duration of measurable effects on serotonin is 6 rather than 3-4 hours, as in the rat. In previous experiments with 4 dog brains (10), areas

with normally high concentrations of serotonin showed an increase (non-significant) following the drug.

A similar pattern of a rise in serotonin and fall in norepinephrine is seen with some of the psychoactive drugs related to LSD-25 (Table 2): mescaline, ALD, MLD, psilocybin. Since mescaline interferes with the norepinephrine assay and bufotenin with the serotonin assay, these compounds were not studied; Himwich correlated effects of bufotenin with release of catechols from binding sites (14). BOL is without marked effect; the effects of psilocybin, seen only with the dose of 50 mg/kg , are more marked on norepinephrine than on serotonin. No such effects were seen after single doses of metamphetamine, but McClean and McCartney (15) reported a similar pattern of effects on serotonin and norepinephrine which occurs after chronic, increasing and toxic doses of amphetamine. While these patterns are seen with procedures which produce psychotomimetic effects in man, not all such drugs influence these systems; *e.g.*, no such effects were seen with Sernyl (10). The central effects of the ergot series do not correlate with peripheral antiserotonin potency (*e.g.*, no effects with UML), but Woolley's notion that LSD-25 and psychoactive congeners

TABLE 2
Congeners of LSD-25
Effect on Brain Amines

TREATMENT (mg/kg)	NUMBER	MEAN $\mu\text{g/gm}$	s.d.	Δ %	P
SEROTONIN					
Control	11	535	26		
Mescaline (20 mg @ 120')	20	605	53	+13%	<.001
Control	15	538	33		
ALD (1.6 mg @ 90')	21	603	36	+12%	<.001
Control	8	520	26		
MLD (1.6 mg @ 120')	8	624	62	+20%	<.01
Control	8	529	44		
Psilocybin (50 mg @ 90')	10	590	46	+11%	<.02
Control	12	519	39		
BOL (1.8 mg @ 60')	12	533	32	+ 3%	n.s.
NOREPINEPHRINE					
Control	7	471	35		
ALD (1.6 mg @ 90')	8	392	37	-17%	<.01
Control	4	468	22		
Psilocybin (50 mg @ 90')	8	375	54	-20%	<.02

would interact with central serotonin mechanisms seems confirmed if one selects changes in brain levels rather than organ-response as an effect.

In order to see if the level of serotonin would respond to the interaction of drugs at a central site, drugs which can partially inhibit the LSD-25 effect on behavior (16, 17) and which interact with serotonin at peripheral receptors (18) were tested. Table 3 shows that when 1800 μg BOL/kg are

that this describes the locus and *not* the function of serotonin. The effect of increasing the dose of reserpine is to decrease the amount of serotonin bound after LSD-25; which would indicate some interaction of these agents at related receptor sites. After reserpine, a large dose of BOL does show a LSD-like effect on levels of serotonin (7), indicating, perhaps, a changed accessibility of BOL to mechanisms which induce binding.

TABLE 3
Partial Inhibitors of LSD-25:
Effects on Brain Serotonin

	NUMBER	Δ IN $\text{m}\mu\text{g}$ FROM CONTROL	% REDUCTION OF LSD EFFECT	P
LSD-25 (520 $\mu\text{g}/\text{kg}$, 30')	13	+100	—	<.01
BOL-LSD-25 (1.8 mg/kg 10' before 520 $\mu\text{g}/\text{kg}$)	12	+ 50	—50%	
LSD-25 (1300 $\mu\text{g}/\text{kg}$, 30')	21	+ 96	—	<.001
CPZ-LSD-25 (2 mg/kg 60' before 1300 $\mu\text{g}/\text{kg}$)	24	+ 34	—64%	

given 10 minutes before 520 μg LSD-25 the rise in serotonin is reduced. We have observed this in various dose and time combinations, but at certain dose and time ratios we have observed facilitation; *e.g.*, with 1800 but not 1300 μg BOL/kg and 520 μg LSD-25/kg in the same syringe. Similar findings are obtained when 2 mg chlorpromazine/kg are given 1 hour prior to 1300 μg LSD-25; the LSD-25 effect is reduced by 64%.

While changes in serotonin respond to the presence of LSD-25 at central sites, the mechanism of this LSD-25 effect is difficult to discern. No effects were found on synthesis or destruction of brain serotonin, although these mechanisms are not rigorously ruled out (7). Since reserpine releases serotonin and somehow impairs binding capacity, and since LSD-25 induces an elevation after reserpine, binding mechanisms could be involved. About 70% of brain serotonin was found by Giarman and Schanberg (19) in subcellular particles; this compartment rather than the supernatant is depleted after reserpine. When LSD-25 was so tested (7) the increases in the whole brain could be accounted for by increases in the particulate. For descriptive purposes, LSD-25 may be said to induce binding of serotonin; it should be clear

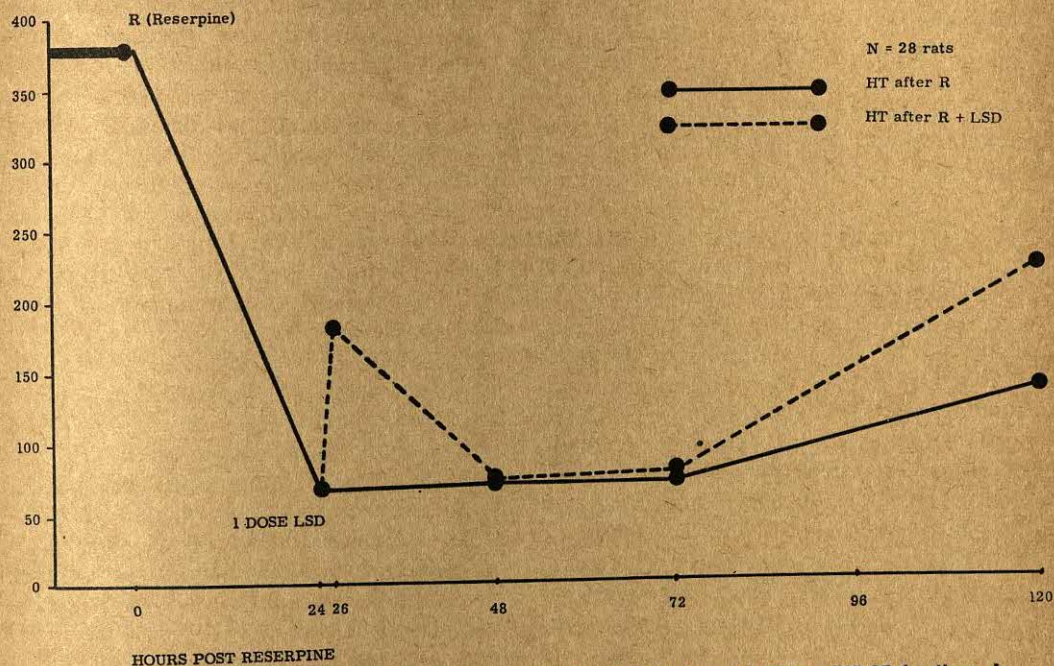
There is one further bit of evidence of an effect of LSD-25 on intrinsic mechanisms which bind and release amines. There are at least 2 phases of the effect of reserpine: 1. Immediate, leading to release of serotonin during the presence of the drug; 2. A later phase in which the capacity of normally operative mechanisms for binding is slowly restored. For example, about 72-96 hours following a large dose of reserpine, the onset of an increasing capacity to bind becomes apparent in following the repletion curve of brain amines. When LSD-25 is given 24 hours after reserpine, the effect of a *single* dose of LSD-25 can be seen in both these phases; *i.e.*, 2-4 hours following the dose of LSD-25 and again at 96 hours (Figure 2). LSD-25 appears to induce binding and stimulate endogenous repletion following release. There are no pharmacologic data which explain the persisting effects of either LSD-25 or reserpine (20); both drugs are rapidly metabolized.

Turning from evidence of an effect on central amine mechanisms, there is the question as to the effect of altered amine regulation upon behavioral and autonomic effects of LSD-25. Rats given a single dose of reserpine and tested 3-4 days later (after their bar-pressing has returned to normal) show a prolonged response to a subthres-

FIGURE 2
Effect of LSD-25 on Repletion of HT

(See text)

mpg HT



2 groups of rats: R and R + LSD; R = 2mg reserpine/kg; after 1 dose of 520 μ g LSD-25/kg there is an immediate rise in serotonin (HT) and a second phase 96 hrs. later (at 120 hrs.) where the differences between R and R + LSD are significant ($p < .01$)

hold dose of LSD-25 (40 μ g/kg) and an erratic development of tolerance if dosage is continued(21). These studies are not based on an interaction of 2 drugs, since reserpine has been metabolized; rather, they test an effect of LSD-25 in a brain with altered mechanisms for the regulation of biogenic amines.

Similarly, in humans(8) the effect on both behavioral and autonomic response is markedly different if LSD-25 is given 2 days after a *single* dose of reserpine. In collaboration with Benton, 14 chronically schizophrenic women were tested. Two days after 10 mg of reserpine the patients felt recovered from the reserpine; the only sign of an altered brain milieu was the miosis. They then received 120 μ g LSD-25 and showed prolonged and toxic reactions: marked tremor and akathisia in the majority, and in 1 an oculogyric crisis. Each felt the drug was less pleasant than her control LSD-25 and that the effects lasted longer.

While it was difficult to be sure that the specifically psychotomimetic effects were increased, toxic effects of LSD-25 were clearly apparent.

With the exception of pupil size, tolerance developed normally in these women. Normally LSD-25 induces a fairly prompt mydriasis. The 9 AM pupil size 24 hours following the first dose of LSD-25 also shows a relative mydriasis and can be used to measure tolerance. After pretreatment with reserpine, the 9 AM pupil size shows miosis rather than mydriasis 24 hours after LSD-25; daily (tolerance) doses of LSD-25 enhance the matinal miosis. The data indicate that autonomic response to LSD-25 is different in the presence of an altered status of central amine mechanisms; the mechanism is not known. It may be that LSD-25 exhausts available stores of adrenergic mediators which leads to an unmasking of the parasympathetic effects both of LSD-25 and of the amine-depleted central systems.

In view of the above, several features of amine metabolism may be stipulated as relevant to the effects of LSD-25 on autonomic and behavioral functions: 1. The total level of amines (*e.g.*, LSD-25 increases serotonin and decreases norepinephrine, and a change in levels changes autonomic and behavioral effects of LSD-25); 2. Their subcellular distribution (*e.g.*, LSD-25 induces binding of serotonin in particulate); 3. The presence of a drug at a receptor (*e.g.*, effect of LSD-25 on amine levels is reduced or enhanced with BOL or chlorpromazine); 4. The status of normally operative mechanisms for release and binding at several phases after such mechanisms are altered by drug action (*e.g.*, LSD-25 stimulates repletion after reserpine, and autonomic and behavioral effects of LSD-25 are changed); and 5. The rates at which serotonin and norepinephrine are bound and released (*e.g.*, different time course of effects in rats and rabbits).

Beyond the studies cited here, there are reports which show effects of different classes of psychoactive drugs on levels (22-24) and differential effects of classes on distribution of biogenic amines (19, 25). We do not know in any definitive way what the function of such small changes could be, nor the function of amines in normal physiology, nor what the intrinsic factors are which regulate them. For purposes of model-making, we were interested in testing on the rat parameters of procedures which, if done in man, could induce psychotic behavior. We wanted to know if psychotomimetic drugs changed the chemistry of the brain and if a changed brain chemistry changed the effects of psychotomimetic drugs. We also were interested

to see whether non-pharmacologic procedures could influence amine mechanisms.

Since small changes in levels proved to be reliable in drug studies, Barchas and I explored a number of procedures involving excessive deprivations or demands which tax—or surtax—adaptive mechanisms. Table 4 summarizes some very recent experiments (11). Garratini (26) and Brodie (27) had shown that extremes in environmental temperature could influence the extent to which serotonin was released by reserpine. Scrutiny of these data showed that such extremes elevate serotonin levels slightly, so at the least it appeared that serotonin resists *drug-induced* release in cold or heat stress. Hypophysectomy of cold stressed rabbits abolished the resistance to reserpine-induced release of serotonin. The experiments we are doing already show that a 4-6 hour swim in water at room temperature or a 15-30 minute swim in 15° C. water lead to a decrease in norepinephrine and an increase in serotonin; this occurs in hypophysectomized rats. Anoxia induced in a nitrogen chamber showed no effects. Changes in serotonin (but not norepinephrine) are, at this point in our work, not impressive with the treadmill. The extent and rate of change in level of each amine vary in part with the procedure, in part with the individual rat; extensive work remains to specify the extent of change and variables influencing these changes. A treadmill or a swim are quite different procedures. Each requires different patterns of exertion, activation, and adaptation; *e.g.*, walking on a wheel does involve exertion and sleep deprivation, but apparently little vigil; these animals tend to give up and take a free ride as far as they can. They do not seem to be as acti-

TABLE 4
Non-Pharmacologic Change of Brain Amines

	NUMBER		HT	P*	% Δ	NE	P*
	HT	NE					
Warm swim	6	38	+20%	<.001	-26%		<.001
Cold swim	26	20**	+16%	<.001	-14%		<.05
Hypophysectomy and cold swim	6	6	+17%	<.01	-10%		<.10
Cold room (18-24 hr.)	6	6	+ 9%	<.10	-20%		<.01
Wheel (24 hr.)	14	4	+10%	<.05	-10%		n.s.

* Based on differences between mean values (in $m\mu g/m$).

** Adrenals of 8 of these rats showed no change in NE.

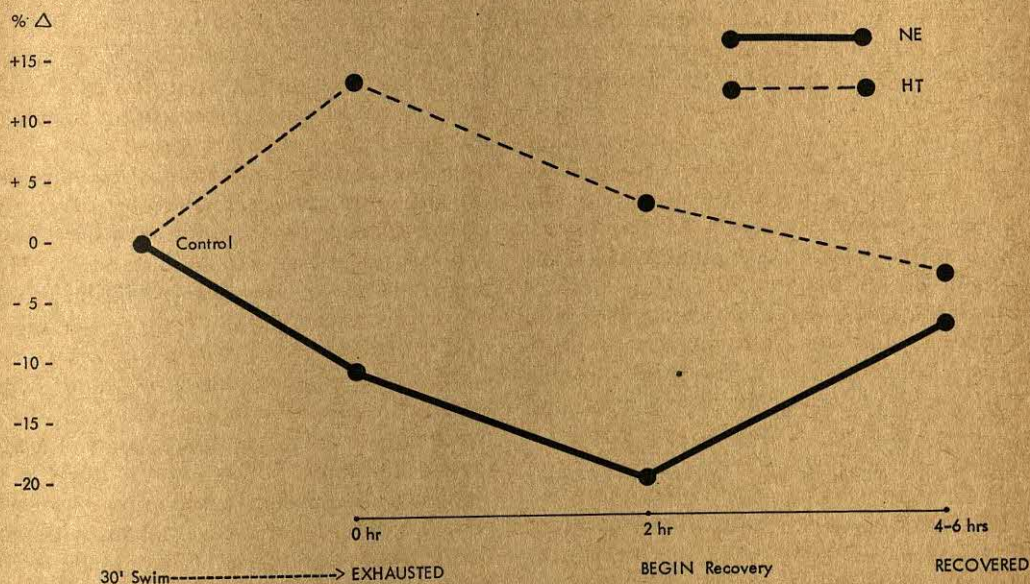
vated as a swimming animal.

A change in functional state and brain amines can also be seen in rats permitted to recover from a cold water swim (Figure 3).

psychophysiologic function in the face of excessive activation or demand.

These studies refer largely to changes in the rat brain. If we are not to anthropo-

FIGURE 3
Brain Amines After Swim Stress



Immediately after a 15-30 minute swim to exhaustion, norepinephrine is decreased 11% and serotonin increased 13%. Two hours after the swim, norepinephrine was decreased 20% and serotonin values were not significantly different from normal. Upon removal from the water at 0 hours, rats exhibited a sporadic uncoordinated activity, but were generally feeble and inactive. At 2 hours, they had begun to sustain a few periods of more coordinated activity with some grooming; and at 4-6 hours they appeared normal.

CONCLUSIONS

These studies would indicate that the endogenous brain amines are responsive not only to LSD-25 and psychoactive congeners but also to some factor or factors of intense stress. If so, this would provide some biological link between psychoactive drugs, their effects upon amine metabolism and conditions which give rise to the need for such drugs. Perhaps, if endogenous amine mechanisms are chemically or genetically impaired, this could be reflected in altered

morphize the rat nor "rodentomorphize" man, our speculation must be limited. Within the rat some psychotomimetic drugs show a pattern of effects on biogenic amines and vice versa. There are little data for the rat which firmly link rates of binding and release within a specific animal with specific patterns of physiological or behavioral response. With respect to psychophysiological effects, these changes in amine levels could conceivably reflect an incidental rather than a necessary and sufficient response to the drug. Differential effects of drugs on amine levels are reliably observed, but for other than time of onset, the changes in levels have not been linked with the pattern of effects. We do not know if the similarity in pattern of amine response to certain stressors and to psychotomimetic drugs reflects similarities in mechanism. Thus, 8 years after Woolley's hypothesis, a relationship of LSD-25 to central amines and certain correlations of amines with autonomic and psychomotor function in the rat and in man can be demonstrated. The mechanisms accountable for these facts and their

specific relationship to disturbed patterns of function have not been unraveled, even in the rat.

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SOME BACKGROUND FACTORS IN RECENT ENGLISH PSYCHIATRIC PROGRESS¹

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Recent American studies have indicated that hospital experience critically contributes to the behavior, management and prognosis of patients with psychiatric illness (3, 8, 41). Interest has shifted from a custodial to a therapeutic orientation and a widespread re-examination of notions long accepted as reasonable and "therapeutic" has been stimulated (14, 48). This interest in the social aspects of illness has led to much enthusiasm about recent English developments which include the development of open-door hospitals, therapeutic communities, day hospitals, aftercare programmes and industrial rehabilitation units (4, 9, 19, 24, 25). Many of these developments have been viewed as recent means of making effective various "dynamic" and theoretical schemas, insufficient consideration being given to the historical and social matrix from which they have evolved (2, 12, 26). An examination of some aspects of this historical complex may thus serve the purpose of enlarging the perspective in which recent progress in English psychiatry may be understood.

The modern reformation in psychiatry which came according to Henry, "two centuries after all other human interests had experienced a rebirth," developed in England during the late 18th and early 19th centuries (49). This was a time of great change in England owing largely to the impact of the Industrial Revolution. It was during this period that the efforts of such citizens as Jeremy Bentham, Robert Owen and John Stuart Mill led to political and constitutional reforms, increased suffrage, reduced power of landed interests and an increasing centralisation of government. This period was one of intense social legislation: the Factory Act of 1833 limited child employment; the 1834 Poor Law Act

encouraged rational arrangements for the care of the ill and unfortunate, by distinguishing between able-bodied individuals, the feeble, orphans and lunatics; the 1835 Prisons Act established inspection of prisons and the 1832 Reform Act altered the electoral basis of Parliament, giving the new middle classes proportional representation (43).

At the start of the Industrial Revolution the only statutory social service in operation dated back to the Poor Law Act of 1601 which made it the duty of the local community to provide for the poor, the old, the blind, the lame and the impotent (15). The reforms which were subsequently provoked and finally effected were in large part a reaction to the new needs created by a rapidly expanding, industrialized urban society. These reforms were especially directed towards the creation of suitable conditions in factories, mines and towns and improving health conditions to protect people from infectious diseases.

Developments in psychiatry reflected this spirit of reform. The humane treatment of the mentally ill can be traced back to the middle of the 18th century. William Battie of St. Luke's Hospital in his *Treatise on Madness* (1758), William Perfect in his *Annals of Insanity* (1787) and many others advocated the moral approach to patient care before the time of Pinel and Tuke (46).³

While Pinel was unchaining patients at the Bicetre, William Tuke was instituting similar reforms at the York Retreat in 1796 (44). Both men emphasized exercise, occupational therapy and the absence of restraint. In addition to the work of individuals public interest in the treatment of the insane was also being aroused. A House of Commons investigation of "mad-

¹ This paper was written during the tenure of a Post Doctoral Research Fellowship from the National Institute of Mental Health, U. S. Public Health Service.

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³ These enlightened developments were not confined to England and France. The psychiatry of the late 18th and early 19th centuries was stimulated elsewhere by such innovators as Joly in Geneva (1787), Chiarugi in Tuscany (1788) and Langermann in Bayreuth (1805) (1).

houses" in 1815 described the famous York Asylum as "a very horrid and filthy situation," and recommended the discharge of incompetent hospital officials and new measures to improve the safety, comfort and welfare of the patients(38). The 1828 Lunacy Commission in England reported that in one London asylum, "Several of the pauper women were chained to the bedsteads . . . in crowded, ill-ventilated places." Only 30 years later however, Lord Shaftesbury was able to write(44),

At the present time when people go into an asylum they see everything cleanly, orderly, decent and quiet . . . When we began our visitations, one of the first rooms that we went into contained nearly a hundred and fifty patients, in every form of madness, a large proportion of them chained to the wall, some melancholy, some furious, but the noise and din and roar were such that we positively could not hear each other.

As a result of numerous investigations, legislative reforms and the success of such places as the Retreat, therapeutic workhouses became popular, aftercare programmes were introduced and patients came to enjoy greater freedom in some asylums. Among the prominent developments of this period were increased liberties for patients, the abolition of airing courts, the development of open wards and the development of occupational and recreational programmes.

In this same period John Connolly at Hanwell developed the nonrestraint policy initiated by his predecessor Charlesworth, eliminating the use of mechanical means such as leg-locks, strait-waistcoats, handstraps and coercion chairs. With fewer restraints more efforts were made to know and understand the patients(42). Tuke has written that mental attendants were expected "to engage them [the patients] in such occupations as would make them contented, to provide an orderly outlet for their energies and to divert their minds from thoughts of escape"(42).

The Lunatics Act of 1845 embodied many of the principles of reform begun during the first half of the 19th century. Whereas the 1774 Inspection Act was ineffective because of lack of power, the

Lunatics Act called for a national framework governing the care of the insane and an inspection body to maintain the standards found possible and desirable(18). It made recommendations for exercise and amusement facilities and advocated increased numbers of attendants to prevent the use of harsh and unnecessary restraints.

These developments in the concept and practice of moral treatment were not universally accepted. There was, according to Walk, much misuse of the concepts of Tuke and Connolly by lay hospital committees who felt such management could be directed by lay people in large institutions (47). Thus in 1858 Connolly could say:

The government of our County Asylums is highly defective and more especially that of our large county asylums near the metropolis. The governing bodies discourage and repudiate the aid of their medical officers and show a want of discrimination between the requirements of the insane and those of mere paupers or prisoners in gaol.

Despite the progress noted by Shaftesbury in 1858, the Lunacy Commission and the Royal Commissioners Report in 1859 both included many descriptions of inadequate staff and care. Another aspect of the situation in these years was the large number of individuals classified as paupers who were either in workhouses (7000 in 1859) or living with friends or elsewhere (8000 in 1859), constituting about an equal number to those in county asylums or licensed houses. Despite protests from Poor Law authorities that "lunatics" needed medical treatment in asylums, the Board of Guardians interpreted the Poor Law Act loosely and thus continued to keep large numbers of the pauper insane in workhouses, until the 1862 Lunacy Act amendment prohibited such detention for more than 14 days unless medical approval was given(47).

With increasing population, urbanisation and industrialisation mental asylums were enlarged, made more efficient, removed from urban centres and overcrowded with increasing numbers of patients. Such factors, coupled with progressive pessimism in some quarters about the treatment for conditions deemed organically determined,

contributed to the slow spread of moral treatment and the perpetuation of custodial patterns in many hospitals. Despite this a tradition of social reform and social legislation persisted and progress continued to be made(10). Although the Lunacy Act of 1890 and the Mental Deficiency Act of 1913 appear retrospectively to have promoted the isolation of mental hospitals, thus fostering custodialism, they were originally enacted in the interest of patient welfare(18). To safeguard patients, asylums were permitted to admit only those certified by legal authorities. The determination of diagnosis by lay authorities often led to certification in the late stages of illness and late treatment and as a result helped perpetuate a custodial or protective attitude in hospitals with its attendant abuses.

Much as the early 19th century was a period of great reform so the 20th century in England has been marked by a variety of developments in social legislation which have served as a backdrop for many of the experiments and innovations of hospital psychiatry. With the Liberal Party's electoral triumph in 1906 a number of schemes were introduced, including such measures as the feeding and medical inspection of school children, old age pensions and a state scheme for social insurance. Subsequent developments have led to the state playing a bigger role in the creation and extension of personal services, a trend which was further intensified after the second World War. These developments have been to a large extent intertwined with the far-reaching developments in psychiatry itself.

A number of developments in the 2nd and 3rd decades of the 20th century altered the general pattern of the preceding decades. Psychotherapeutic successes with the treatment of war neuroses in the first World War combined with the psychoanalytic theories of emotional phenomena to provide much impetus to treatment(7). Of great importance also was the introduction and widespread use of physical methods of therapy. Between 1917 when Wagner-Jauregg introduced malaria therapy for general paresis and 1938 when Bini and Cerletti reported on ECT, prolonged narcosis treatment (Klaesi, 1922), hypoglycemic coma

treatment (Sakel, 1933), Metrazol convulsion treatment (Von Meduna, 1935) and prefrontal leucotomy (Lima and Monez, 1936) were introduced(16). The renewed interest in the possibilities of psychiatric treatment was reflected in Britain by the legislative acts passed in 1929 and 1930.

The Local Government Act of 1929 transferred the powers and duties of the Poor Law authorities to the local health authorities. The expanded responsibility for local councils increased the ties between psychiatry and medicine in general hospitals and abolished the anachronistic Poor Law system of caring for the mentally ill(23). One year later the Mental Treatment Act made provision for patients to enter mental hospitals on a voluntary basis, retaining the right to leave after three day's notice. It also provided for temporary patients who, although possessed of minimal volition on admission, were considered to enjoy a good prognosis: such patients required certificates from two doctors and could not be detained longer than six months. At the same time gradual steps were taken to improve the freedom of patients so admitted and the ward doors began to be unlocked again. An increased movement in and out of hospitals began and was associated with the increased use of outpatient departments and observation wards(37).

Before 1930, 29 outpatient departments existed in England and Wales; in 1938 there were four times this number(21). While in 1930 there were some 2000 voluntary admissions, by 1938 the number had increased to over 12,000 constituting some 40% of all admissions and by 1945, 75% of all admissions(22). Of the 93,306 patients admitted for mental illness to various private and public mental hospitals, registered hospitals, single care and licensed homes in 1957, 77,288 or 82.8% were admitted on voluntary status(27).

Among the significant results of this Act were a general diminution in stay of patients in hospital and a greater concern for the rehabilitation and aftercare of patients. Increasing proportions of the population were prepared to accept treatment in mental hospitals, a phenomenon which suggested to some writers a greater confidence on the part of the public(17). In addition,

the Act gave statutory powers to local authorities to open outpatient departments in general hospitals, a further step in bringing psychiatric treatment back into the community.

That these new developments and an increased concern for mental patients yielded significant therapeutic effects is suggested by shorter stays, higher discharge rates and lowered death rates at one English hospital between the years 1931 and 1947(35). That these effects were related to nonspecific environmental factors was further suggested by the fact that in the years when physical treatments became available, "almost 60% of newly admitted cases were receiving no forms of specific therapy"(36). Many new approaches were initiated during this period. A therapeutic social club in a mental hospital was first organised in 1938 by J. Bierer(5). Maxwell Jones initiated a therapeutic community at the Mill Hill Emergency Hospital in 1942(20); and T. P. Rees began introducing unlocked wards at Warlingham Park Hospital in 1935(33).

Successful experience during the second World War in treating large numbers of battle casualties by a variety of methods, especially by group therapies and the physical treatments, encouraged optimism about the postwar management of mental illness and "had the effect of bringing psychiatry closer to medicine"(34). Indeed, prior to the war's end, plans were in process to coordinate the work of mental health with the general health services of the country(32). Prior to the National Health Act the psychiatric scene was extremely varied in different parts of England. The Act brought the salary scales of psychiatrists working in mental hospitals up to the level of other specialists and increased the opportunities for outpatient work, all of which brought psychiatry closer to medicine and the general public. Another major step was to give the next of kin of committed patients the power to discharge their relatives unless they were felt to be dangerous by the medical superintendent, which reduced much of the public animus toward mental institutions(39).

The establishment of a National Health Service in 1948 brought mental hospitals

into the same central governing body as general hospitals. The standards of mental hospitals were set at the level of general hospitals and more doctors were attracted to psychiatry. Aftercare continued to be the responsibility of the local health authorities which had controlled most public mental hospitals before 1948. The National Health Service in improving the standards of mental hospitals and bringing more good doctors into full time institutional work further raised the standard of care given to patients(13). The provision of free care increased the possibilities of early care, which in leading to better results and broadening the catchment population to include large numbers from the middle classes, helped remove the stigma of mental disease(31). It has led to the increasing use of outpatient facilities, increased turnover of patients in mental hospital beds and has benefited the psychiatrist by raising his professional status to the level of his fellow medical practitioners.

The recommendations of the Royal Commission in 1954 were embodied in the Mental Health Act of 1959(28). This Act, repealing all previous legislation, made provision for all patients to be admitted to mental hospitals on an informal basis(40). It did away with the necessity for certifying patients or detaining them compulsorily save under special circumstances. The Act provided for patients to be admitted to any hospital, general or psychiatric, and so contributed to the reduction in negative attitudes about "special" hospitals. The new Act also clarified the role of local authorities in the management of hostels for aftercare, social work, old age homes, childrens' training schools and industrial centers and provided for greater contact between local health authorities and hospital authorities. Although it is perhaps too early to assess thoroughly the effects of the Act it would seem that patients are admitted at earlier stages of their illnesses, discharged sooner, and experience greater freedom while in hospital(30). Taking cognizance of the changing attitude towards the mentally ill, the Minister of Health has recently submitted a Hospital Plan to Parliament(29), laying great emphasis on treating patients in the community, in general hospitals,

short-stay units and residential hostels, and when possible at home. Regarding future needs, the Plan states :

Because of the success of new methods of treatment, combined with changed social attitudes, it may be expected that the recent decline in the number of hospital beds required for mental illness will continue.

Whereas the total number of beds in 1960 was 151,899 or 3.3 per 1000 people, the requirement for 1975 is estimated at 92,090 or 1.9 beds per 1000 people.

Much as many of the reforms in 19th century psychiatry were promoted by lay reformers such as Tuke and Shaftesbury in England and Dorothea Dix in America, voluntary lay organisations have actively pressed for many of the recent reforms, a fact not to be minimized in evaluating recent psychiatric progress (6, 11). In England voluntary organisations have engaged in the community care of defectives and aftercare programs and have in some instances done the work of the local health authorities. At present the National Association for Mental Health, made up of the major voluntary organisations which merged during the war, runs educational programs, research, agricultural hostels for high grade defectives, senile homes and mental deficiency and mental illness institutions, and acts as a supplement and a stimulus to statutory powers.

CONCLUSIONS

The factors outlined herein—a 19th century tradition of moral psychiatry, a history of social legislation, the activities of lay reformers and the development of a nationalised health scheme—have all made significant contributions to the current developments in English psychiatry, characterized by therapeutic communities, open-door hospitals, day centers, industrial rehabilitation units and aftercare programmes. From as early as the 1930's British hospital psychiatry has progressively moved away from a custodial position towards the development of an atmosphere conducive to the development of therapeutic communities and giving effect to procedures conceived in the late 18th century. More and more, attention has been directed towards

good hospital-community relations, the betterment of aftercare, and in general the establishment of a preventive psychiatry where patients can be admitted early and treated rapidly. Examination of the factors discussed herein suggests that not only did a fertile soil exist for the growth of these ideas and practices but that an effective machinery for carrying out such programmes has been made available. It is of especial interest that most of these developments were being introduced before the advent of tranquilizers which have been credited for the increasing permissiveness and humanity of hospital policies (45).

Much as the developments in the days of Tuke were part of a larger social picture, so too the current changes in medical and psychiatric care are part of an increasingly liberal political and social policy which has provided much social welfare legislation (15). It is suggested that an examination of such factors is necessary in evaluating the development and success of current experiments in psychiatry which have not developed *de novo* or from some preformulated theoretical position but stem from a long history of social and legislative reform and have been fostered as an aspect of a nationally organised health scheme.

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THE DILEMMA OF THE PSYCHIATRIST IN FORENSIC PRACTICE¹

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Few branches of medicine have fallen so low in public opinion as has psychiatry at the present time. In large part this is the result of the so-called "battle of the experts" as it takes place in one court after another when the plea of insanity is entered as a defense to a crime. Whenever a particularly heinous crime occurs, members of the lay population speculate that some "sharp headshrinker" will no doubt get the alleged criminal off the hook. One or several psychiatrists will testify that the perpetrator of the crime was sane, and an equal number of eminent psychiatrists will testify that he was insane. There is neither affection nor respect on the part of the public toward those who engage in these contests, and there is a deep-seated suspicion that any psychiatrist's opinion is for sale.

As psychiatrists—especially those in private practice—we should be deeply concerned about these attitudes, and we should begin to seek within ourselves the causes and the remedies. Why the battle of the experts? Shall we ourselves continue to subscribe to this esteem-destroying procedure?

In two earlier studies on Colorado cases for the period of August 1, 1927 to August 1, 1947, we (1, 2) reported that 750 persons were admitted by court order to Colorado Psychopathic Hospital for observation. Of these, 190 or 25% were reported insane; 30% of those charged with murder were reported insane. Statistics from the same hospital (3) for 33.5 years since its establishment indicate that 1771 persons have been committed for observation. Of these, 245 or 14% were reported insane; 28% of those charged with murder were reported insane.

Data from the Colorado State Hospital (4) for the same 33.5 years indicate that 1438 persons have been sent there for observation. Of these, 756 or 52% were

reported insane; two-thirds of those charged with murder were reported insane. The combined data from the two institutions for 33.5 years show that 3207 persons in Colorado were committed for observation under the plea of insanity; 1001 or 31% were reported insane. Among the total committed for observation, 440 were charged with murder; nearly one-half were reported insane.

Since the M'Naghten case in 1843, the plea of not guilty by reason of insanity has become increasingly popular. All states except New Hampshire recognize this plea and have provided for psychiatric examination of the defendant and a report of the findings to the court. The examination is usually conducted by a tax-supported agency, such as the state hospital, the psychiatric department of a medical school, or a specially appointed agency.

The plea is entered in a variety of cases—sometimes in those in which it seems to have little validity. Frequently it is advanced when the crime is so horrible or repulsive that it seems to the general public that the perpetrator must have been out of his mind to have committed it. We have observed this plea to be entered occasionally as one of expediency. The defense counsel (for any one of a number of reasons) has not had time to prepare for the trial and resorts to this plea, since it almost automatically results in a postponement of the trial. Further, a report of insanity decreases the probability of prosecution. In this connection, it may be that the public prosecutor's usual unwillingness to prosecute in the face of a report of insanity has accelerated the abuse of this plea. Needless to say, the plea is increasingly used in all cases in which there is real question as to the competence of the defendant. The plea may be suggested by distraught relatives, sympathetic judges, defense counsels, and by the defendant himself. Recently, we have noted that the defendant uses this plea as a method of "self-analysis." He may say to the examining

¹ Read before the 26th annual meeting of the National Association of Private Psychiatric Hospitals, Scottsdale, Arizona, January 1961.

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psychiatrist, "Sure, I know that I'm not crazy, but you tell me why I do these things. You tell me why I behave as I do."

If the court-directed examination reports the defendant *insane*, the public prosecutor may still elect to try the defendant. In this event the jury occasionally will find the defendant sane and hold him responsible for his crime. Usually, though, the report of insanity with its implication of non-responsibility is accepted, and the remaining portion of the trial is simple. All thought of prosecution is eliminated; only the nature of the mental illness need be established to substantiate the defendant's incompetence. The declaration of not guilty by reason of insanity wins for the defendant absolution for his crime. He is, as the verdict states, "not guilty"—though insane.

If the original court-directed examination reports the defendant *sane*, a plea of not guilty by reason of insanity may still be entered. Since support must then be found for this plea, the defense seeks one or more psychiatrists who will find his client insane; if not totally insane, at least insane for the duration of the crime. The private psychiatrists³ are usually sought, since the institutional psychiatrists have already been forced to the side of the prosecution by their report of sanity. Thus, the psychiatrists are marshalled against each other and become pawns to prove or disprove points made by either counsel.

The psychiatric opinion expressed by either side may often be just that—"opinion." Neither expert can disprove the other, although each is talking about the same defendant, the same crime, and has used the same tools of examination. Each has listened to the same history and presumably has obtained the same facts necessary for him to come to an opinion. Or does each listen to the same story and does each obtain the same facts?

Let us consider the procedure. When an alleged criminal is apprehended, the police

attempt to obtain a confession, or at least a statement. How many times the defendant tells his story in these early phases is unknown, but finally it is committed to writing, and this document becomes the statement or confession, and *one* of the histories of what happened. With the appearance of the defense counsel, the "story" is told again—for as a rule, the defense is not permitted to see the defendant's statement. In this retelling, inconsistencies may creep in, circumstances appear to change, and emphasis seems to be shifted to place the defendant in a better and more understandable light. Some of the harshness of the crime is wiped away, and some justification is sought. In fact, sometimes it is almost made to appear that the deceased invited the murder, and actually it was his own fault that he was killed. The influence that the defense counsel plays in shaping the defendant's story at this time must be significant. Often the plea of not guilty by reason of insanity is formulated here.

If the defendant is placed under psychiatric observation for examination and report to the court, he must again tell the story of his life, probably several times. By the time the psychiatrist recruited by the defense enters the picture, the defendant has told his story many, many times. Days, weeks, and even months may have elapsed since the commission of the crime or even since the arrest. Is the story the same as told immediately after the arrest? Is it the same as told to anyone else? By repetition has the defendant inadvertently been forced into a "black out" state to escape pain and guilt and sense of total rejection?

In any event, the psychiatrist allied with the defense may be looked upon as a friend who must search for any and all mental changes which might relieve the defendant of responsibility. In this search, the psychiatrist need not be bound too closely by the right and wrong principles as set forth by the M'Naghten rules, since it is far easier to report that the defendant did not have the ability to refrain from doing the wrong because of his mental disturbance. If this thesis is unacceptable, an alternative can be presented that the defendant could not formulate the intent to kill because of

³ For purposes of discussion, we define as institutional psychiatrists those primarily affiliated with tax-supported institutions and all those not primarily associated with tax-supported institutions as private psychiatrists. The distinction is admittedly somewhat artificial and not entirely satisfactory.

his mental disturbance. Still other explanations can be given; to wit: because of the defendant's personality and his ensuing emotional conflicts, he could not formulate intent to kill; or because of the social pressures on the defendant, he could not refrain from doing what he knew to be wrong; or, simply, whatever the wrong, it was the result of the defendant's defect.

While the defense counsel is preoccupied with saving his client from the penitentiary, and perhaps death, he is quite unconcerned about the length of time which the defendant may spend in a state hospital should he be found not guilty by reason of insanity. This unconcern has a logical basis, for experience has shown that a verdict of insanity is more favorable to the defendant than a penitentiary sentence for the following reasons: 1. Even though the defendant in fact be insane, the chances of his recovery are good. Most of those found criminally insane are eventually released from the hospital; so being sent to a state hospital is almost the equivalent of receiving a suspended, or indeterminate sentence. 2. If the verdict is one of temporary insanity, commitment to the hospital is a mere formality until arrangements can be made for release. 3. The defendant really may not be insane, although the jury found him to be. He is then committed to the state hospital, and it is usually a relatively short time until he wins his release.

A recent Colorado case illustrates many of the aspects of forensic psychiatry.

David Francis Early, 26, shot and killed three members of the Merrill Knight family on March 25, 1958 in Denver. He was quickly apprehended and within five hours had made a complete confession. He gave a history of repeated difficulty, including incarceration in a Federal Correctional Institution, violated parole, and imprisonment in the state penitentiary. Because of his belligerent attitude, he had been studied psychiatrically at both institutions.

Mr. Knight, an attorney and a distant relative, had provided legal counsel for Early's defense for a series of aggravated robberies which had led to his imprisonment at the state penitentiary. Upon his release from the Federal Correctional Institution, he returned to Denver, apparently with the idea of obtaining money from Mr. Knight.

Early gained entry to the Knight home in the afternoon when no one was home. As members of the family came home individually between 3:00 and 6:00 p.m., he systematically at gunpoint bound, gagged, and placed each in a room. Apparently Mr. Knight, the last to come home, attempted to free himself and lunged at Early, who promptly shot his victim. Following this, Early shot Mrs. Knight and the 14-year-old daughter, but failed to kill the 17-year-old son because ammunition had been exhausted. During the interval required to return to the gun room and reload, the son broke his bonds and fled to the nearest neighbor as Early fired wildly.

Early pled not guilty by reason of insanity. At the trial four psychiatrists and two psychologists testified variously for the defense that he was ugly, paranoid, dangerous, and schizophrenic. Five psychiatrists for the prosecution testified that he was neither schizophrenic nor psychotic, but rather a sociopath, sane and responsible for his acts. Following final arguments, the case was given to the jury, and within 22 minutes they found the defendant guilty of murder and recommended the death penalty. This case was appealed through several courts, but the United States Supreme Court refused to review it. Early was executed on August 11, 1961.

What are the real factors which account for the increasing use of the plea of insanity? Many may be cited, but we believe that the most important are five:

1. A general liberalization of society's attitude toward the person as an individual. The roots of this are found in the Reformation; they are reflected in the revolutions of the peoples throughout the world for independence; they are the mainsprings of democracy; they are the reasons for the safeguards with which our courts are surrounded. The dignity and worth of the individual man and woman has increasingly been emphasized in our western civilization. We are reluctant to take any steps which suggest a reversal of this trend. We not only assume that a man is innocent until he is proven guilty; we place every device at his disposal to help him prove his innocence.

2. Very closely allied to the first reason is the second: an unwillingness on the part of society to punish in a vindictive manner and to exact extreme penalties. A whole new theory of penology has grown up, and

our current philosophies and practices are a far cry from the days when debtors languished in prison for insignificant sums and an even further cry from the inhumanities currently practiced by the Russian police state. The death penalty is in the process of being abandoned by western civilization, and society is increasingly loathe to condemn a man to death or even life imprisonment. For this reason, society not only condones, but actually welcomes the plea of insanity as a way out of the conflict created by this changing attitude which still must function within the framework of relatively severe laws.

3. Many see in the increasing use of the insanity plea a reflection of a current physical softness and moral laxness widely decried by leaders in schools, churches, police agencies, and the press. The United States Army found softness and lack of self-discipline in United States soldiers in the Korean war which led so many to collaboration, capitulation, and even death, in contrast to the behavior of allied soldiers from other countries. Many thoughtful persons believe that the leniency of courts, juries, and police—to say nothing of the apparent breakdown of discipline in the home—is breeding a generation of decadence and lawlessness. In such a society, almost anything goes. No matter how horrible the crime, the important thing is not to get caught; if caught, the next important thing is to escape punishment. Insanity offers one of the most convenient escapes.

4. The fourth basic reason is a better understanding of the mechanics of behavior and better diagnostic measures. Undoubtedly, some of our criminals are insane; perhaps we are better able to recognize these. Even here, though, excesses and abuses occur. An increasing number of our psychiatric group has an explanation for everything—an excuse for every misbehavior. No longer do we need to explain Johnny's delinquency on the basis that he was dropped on his head as a baby; we now have a range of causes from a feeling of being rejected by society to hatred for one's mother. But shall we accept the thesis that every aberration from the normal is a defect of sufficient magnitude to deprive a

person of intent, or self-restraint, or of ability to know the difference between right and wrong?

5. Finally, one of the reasons for the increasing use of the plea of insanity is the willingness of the present day psychiatrist to be for sale. Too many of us seem quite able to render an opinion indiscriminately for a price. It seems strange that in this field we forsake our traditional role of unprejudiced diagnosticians and open-minded searchers for medical truth. Instead of coworkers, we become paid proponents of a point of view. We are too easily and eagerly available on a partisan basis.

We have discussed so far some of the problems that beset our practice of forensic psychiatry, and we have pointed out some of the related shortcomings. Is there anything that we can do about these? Several solutions may be considered.

1. First, as private psychiatrists, we could consider staying out of this field altogether. We could refuse to be drawn into these contests and could stop being pawns of the defense or prosecution. In general, this is a negative solution and, hence, not one to which most of us would subscribe. Defendants are still going to be referred by courts for psychiatric observation. For the most part, this referral is to a tax-supported institution. If the private psychiatrist makes himself unavailable, this would leave only the institutional psychiatrist as the authority. Even though the latter be most competent, few of us would be willing to agree that these should be the only authorities. Further, if we as private psychiatrists should withdraw from this field, we would withhold a vast reservoir of skills and knowledge and experience which ought to be available alike to courts, to defendants, to plaintiffs, and to defense and prosecution attorneys. So withdrawal is not the solution.

2. A second solution might be to serve as a public service without pay. Even as this Utopian suggestion is made, one can hear the cries of indignation—the self-righteous protests that undue advantage would be taken of us under these circumstances. However valid this allegation may be, I believe that, if the financial incentive were removed, we would see overnight a virtual disappearance of the battle of the

experts. We would no longer be recognized as an item for sale, and our professional stature would be raised—not only in the eyes of others, but also in our own.

3. A third solution is the establishment by the court of a commission of one or more psychiatrists to examine the alleged criminal and report to the court. This would require a change in the laws of some states. The psychiatrists for this commission would be drawn on a rotation basis from a panel of all the institutional and private psychiatrists in the area who had indicated their willingness to serve. In this way no one of the psychiatrists would represent one side or the other, since together, or separately, each would report his findings to the court and each could be cross-examined by either side. Lest this solution appear impractical, a good parallel may be found in the procedure used in the civil courts in charge of commitment procedures. In Colorado, for example, a medical commission of two psychiatrists is appointed to examine the person concerned. As a rule, there is little difficulty in reaching a decision in these cases; there seems not to be the great conflict of opinion that is engendered in criminal cases. The report is made to the court, and, although the court has the option of setting aside the findings, rarely does this happen. The spectacle of psychiatrist set against psychiatrist seldom occurs in a civil case.

4. A fourth solution is the establishment of psychiatric court clinics. This, too, would require revision of the laws of some of our states. Guttmacher(5) reports that this procedure has been successfully used in Baltimore, Chicago, Cincinnati, Cleveland, Detroit, New York, Philadelphia, Pittsburgh, and Washington, D. C. Massachusetts is outstanding for its progress in the development of psychiatric court clinics; ten of these have been created for juvenile and adult criminal courts. Certainly, this procedure has much to recommend it, and it may well be the best solution, at least in the larger cities and the more heavily populated states. In summarizing the benefits of this system, Guttmacher states :

It represents the recognition of the truth of the doctrines that in the proper disposition of

criminal cases the focus should be on the criminal rather than on the crime and that the goal of justice is rehabilitation of the individual and the protection of society, rather than vengeful punishment. . . . Where an effective court clinic exists, the unseemly partisan battles characteristic of hired psychiatric experts have virtually disappeared. Wherever it has functioned, the court clinic has, I believe, created an increased respect for psychiatry and its contribution to criminal justice.

5. One much-needed reform is the provision for immediate psychiatric examination upon arrest of every case involved in a capital offense. It is my belief that the psychiatrist, private or institutional, should be one of the first to interview the defendant after arrest, for it is at this time that he comes the closest to telling the truth. The longer the interval between the commission of the crime and the psychiatric examination, the more unreliable is the history. For example, in conducting a series of interviews in the Colorado State Penitentiary on nonpsychotic criminals at periods considerably removed from the dates of their crimes, we(2) found that most of them seemed to have developed a partial or complete amnesia for the details of their crimes. Too often the story told by the defendant changes with repetition; too often the psychiatrist is placed in the untenable position of judging, much later, a prisoner's mental and emotional state at the time of the commission of the crime. Certainly, the reliability of the psychiatric evaluation would be enhanced by immediate examination, and this is true, irrespective of the mechanics established for the examination.

To meet the objection that the constitutional rights of the person might be violated by immediate examination, it is the practice in some jurisdictions for the examining physician not to question the defendant about the crime. However, this poses an obstacle in the understanding of the defendant, for it is difficult to separate the defendant from his crime. Hence, the American Law Institute(6), in writing its *Model Penal Code*, has suggested a statute which reads in part as follows :

A statement made by a person subjected to

psychiatric examination or treatment . . . for the purpose of such examination or treatment shall not be admissible in evidence against him in any (criminal) proceeding on any issue other than that of his mental condition but it shall be admissible upon that issue, whether or not it would otherwise be deemed to be a privileged communication.

6. As a final solution, may I suggest self-discipline in these matters? Let us stop being for sale to any bidder; let us stop prostituting ourselves and our profession; let us be a little less greedy and nondiscriminating in our alliances with the defense or the prosecution. Is it too much to ask that we examine ourselves more criti-

cally before we enter into tstraint, or of Could we once again becombetween right who render diagnoses of illness.

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A FAMILIAL ORGANIC PSYCHOSIS OF ALZHEIMER TYPE IN SIX KINSHIP OF THREE GENERATIONS

LUIGI BUCCI, M.D.¹

In 1907 Alzheimer described the clinical-pathological features of a condition that later came to be known as Alzheimer's disease or presenile psychosis. More than 50 years have passed but the nosological position of this disease remains debatable. In fact, while the symptomatology is well defined and characteristic, the histopathological findings have given rise to several interpretations and theories not completely accepted.

Alzheimer(1) published his first report on a "peculiar disease of the cerebral cortex." A few years later Perusini(2, 3) reported 4 more cases and contributed more substantial data. Simchowicz(4), who studied extensively the histopathology of the brain of senile psychosis, formulated the hypothesis that senile psychosis was due to the argentophilic plaques and the neurofibrillar degeneration always present in the patient's brain. Kraepelin(5) considered this disease as a presenile psychosis, because of the similarity of the histopathological findings and proposed to call it "Alzheimer's disease."

As the knowledge about this disease increased, the hypothesis of Simchowicz became more and more debatable. Many authors reported cases of aged people who, at autopsy, showed the presence of argentophilic plaques and neurofibrillar degeneration and who in life had not shown any signs of senile psychosis. Similar histopathological findings were found in brains of patients who had died from different conditions, demonstrating that neither the argentophilic plaques nor the neurofibrillar degeneration could be considered typical of this condition(6). Schaffer(7) and Lafora(8) reported the presence of fibrillar degeneration of Alzheimer's type in a case of familial spastic paralysis and in one case of schizophrenia. Schnitzler(9) published a case of myxedema with the same findings of fibrillar degeneration; Bogaert and Bert-

rand(10) described both types of lesions in two cases of amyotrophic lateral sclerosis. Barret(11) and Schaffer(7) described Alzheimer changes of neurofibril in the brain in cases of spastic paralysis in a patient 33 years old and in one 28 years old. A similar case is also reported by Braunmuhl(12). The same pathology was reported by Malamud and Lowenberg(13) in the cortex of a 23-year-old man who became demented after an episode of scarlatina at the age of 7. Kleist(14) reported degeneration and neurofibrils in a case of symptomatic psychosis in pseudouremia. Chanutina(15) reported similar findings in a case of Asiatic cholera.

All these reports in such a variety of conditions led many investigators to believe that the histopathological findings described as typical of Alzheimer's disease are far from being typical; they can be produced by different causes which are responsible for some metabolic derangement.

This opinion was strongly emphasized by Braunmuhl(12) who based his conclusions on experimental work. He explained the Alzheimer changes as due to hydration and swelling of the structures previously dehydrated in life. The cause of this change always, according to Braunmuhl, is in the colloidal medium, leading to hysteresis and syneresis of the protoplasm of which the senile neurofibrillar changes are one special form and they may be due to a metabolic as well as an endocrine cause. Literature on the subject contains data concerning the relationship between endocrine disorders and neurofibrillar degeneration.

Schob and Guntz(16) reported a case of pituitary cachexia in a 64-year-old woman with dementia who showed Alzheimer's alterations of the brain. Balli(17), Lewy(18) and Rasdolsky(19) found alterations of the neurofibrils similar to those seen in Alzheimer's in animals after complete removal of either the thyroid gland, parathyroid gland or both. On the basis of these experiences, Grunthal(20) concluded that the

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alterations seen in the senile are presenile psychosis and are caused only indirectly by old age.

Alexander(21), on the basis of the experimental work by Lotmar(22) who was unable to demonstrate in humans what other investigators had demonstrated in animals, concluded that an unknown, specific factor is responsible for the histopathological findings.

Recently, in a review of the subjects, Newman and Cohn(23) published a systemic study of 210 patients and reached the conclusion that the findings of Alzheimer's disease are not typical, but they considered the disease as a specific entity. The possibility that Alzheimer's disease might be a heredo-degenerative disease has also been taken into consideration.

The disease has been described in twins by Braumuhl(12) and in father and daughter by Scottky(24). Lowenberg and Waggoner(25) reported the occurrence of the disease in several members of a family, in two generations.

Though this condition described by Alzheimer is still known as a presenile psychosis because the first cases were described in people in their 4th or 5th decade, today it is known that the disease may occur in the 2nd or 3rd decade, therefore the term presenile psychosis is inaccurate and it might better be called Alzheimer's disease. From what has been said one conclusion may be drawn, namely, that there is no agreement about the possible cause of this condition and of its nosological entity.

Several hypotheses have been formulated about the pathogenesis of this condition, which can be summarized as follows (Bini(26)): 1. The "Alzheimer" is a syndrome and not a disease; it is a variation of the presbiophrenia (Fisher, Francioni, Reichardt, Reinhold(26)). 2. It is a well defined disease, both from a clinical and pathological point of view (Alzheimer, Perusini, Frey, Bonfiglio, Runge, Rostroem, *etc.*(26)). 3. It is only a clinical syndrome due to "involutional processes" and characterized by no specific symptoms and at times by neurological signs from spread of foci lesions (Schnitzler, Stief, Marchand, Altman, Vermeylen(26)). 4. It is a clinical syndrome characterized only by the appear-

ance in the presenile age, and by the presence of extensive and severe lesions which partially affect the psychic functions giving rise to false focal symptoms because of the involvement of the mnemonic-associative apparatus (Sterzt, Kehrer, Hilpert, Flugel, Kaplinsky, Hakenbuch, Geier(26)). 5. It is a clinical syndrome which can be caused by different etiological factors, lues, senility and other exogenous causes (Hilpert, Rothschild, Kasanin, Malamud, Lowenberg and Rothschild, McMenemey(26)). 6. It is a well defined disease, more than clinically or histopathologically, in its specific etiology, and is a systemic heredo-degenerative type (Grunthal and Wenger, Bogaert, Maere and De Smedt, Braunmuhl(26)). To this group belong the cases seen in young age and characterized by particular neurological syndromes. Although each of the above hypotheses has its pros and cons, the last, probably of metabolic nature, seems to be the most satisfactory. Only in this way can some cases in several members of the same family be explained. The diagnosis of Alzheimer's disease is relatively easy, particularly when the clinical picture has completely developed.

Usually the appearance of the symptoms can be divided into three stages: The first stage (mild forms of Grunthal(20)) is characterized by rapid and progressive mental deterioration. The onset is, as a rule, insidious and judgment and insight are first affected. Patient is unaware of being sick, and has a tendency to smile when unable to remember some familiar data. The memory is affected from the beginning. A mild state of euphoria can be present but indifference or anergy are not noticeable. The second stage (moderate cases of Grunthal) shows aphasia, agraphia, agnosia and apraxia. According to Reich(21) these symptoms are due to the involvement of the mnemonic-associative apparatus and are characteristic of a "partial dementia." Kaplinski, Hakenbuch and Geier(21) consider these symptoms typical of Alzheimer's disease. The third stage (advanced cases of Grunthal) exhibits complete mental deterioration with regression and appearance of primitive motor activities, such as continuous chewing, sucking and making noise with the mouth. Loss of weight is frequently noticed

and the patient becomes completely anergic, ending his days bedridden.

The diagnosis, except for the atypical forms, does not offer difficulty. The differential diagnosis between senile and presenile psychosis is also simple and the following outlines elaborated by Alexander and Looney(21) may be a useful guide.

Senile Dementia

Change of personality with loss of memory and mental abilities; alteration of libido; insidious onset in severe forms; amnesic delirious syndrome.

Age over 55.

Presenile Dementia

Mild or severe focal symptoms; aphasia, apraxia, agnosia, loss of memory and mental abilities; overactivity; paraphasic talkativeness; occupational hyperactivity.

Age over 45.

Laboratory findings show no abnormal findings in the serological examination of the blood, except in cases of coexistence of lues. The spinal fluid is also negative. Encephalography: there are cases in which the atrophy is very mild, almost absent, and others in which the atrophy is very pronounced. When the atrophy is quite noticeable a dilation of the ventriculi is also present. There is no relationship between degree of atrophy and mental condition as Grunthal(20) first demonstrated. The histopathology has already been mentioned.

Lowenberg and Waggoner(25) reported cases of Alzheimer's disease in several members of a family in two generations. Recently, we have had the opportunity to study a similar instance; in fact, in this person's family a few other members in two previous generations suffered from a condition similar to hers.

Patient was admitted to Rockland State Hospital on July 22, 1961 with the following history: about 4 years ago patient started to show some change in her personality. She began to neglect her usual housework, judgment impairment developed and she became somewhat belligerent in her attitude. For example, she went shopping and bought more than she could pay for or more food than she needed. She frequently turned on the stove and forgot to turn it off. During the 6 months prior to admission, her condition became so serious that she needed continuous supervision, being practically unable to take care of her simplest needs. For a while patient became very tense and nervous. She was

unaware of her impairment and incapacity and did not tolerate help. At this time she was seen in an outpatient clinic and her sister was told that nothing could be done to help her condition. She was therefore taken to this hospital primarily for custodial care.

At admission this 58-year-old white woman is in poor contact and poorly related, showing psychomotor retardation, apraxia, agnosia, agraphia and aphasia. Patient is unable to understand the simplest command. When asked to identify a common object she is unable to do so. When asked her name she is unable to do so and when asked to write it, she holds the pencil upside down. She has practically lost the capacity to write. It is almost impossible to obtain any information from the patient due to her complete disorganization of thoughts.

The physical examination shows a fine continuous tremor of the head, poor balancing and patellar hyperreflexia. The finger-nose and heel-knee tests are poorly performed. No choreiform or athetoid movements. Blood pressure is 200/80. On the ward, patient is idle, seclusive, indifferent and requires continuous supervision. Both history and clinical examination are typical of Alzheimer's disease.

The family history seems to support the theory that the presenile psychosis should be considered as a heredo-degenerative disease. The patient's maternal grandfather died in a mental institution at the age of 67 or 68. The disease started several years before and was characterized by a progressive mental deterioration whose main characteristics were memory impairment, lack of interest and inability to perform any simple act or to recognize familiar objects. The disease started in his middle 50s. The patient became unmanageable toward the end, as well as becoming incontinent. He was admitted to a hospital and died shortly thereafter, bedridden. At the time a diagnosis of "arteriosclerosis" was made. This was in 1910. No autopsy was performed because of religious reasons.

The patient's mother died in 1935 with a diagnosis of "arteriosclerosis" at the age of 52. The disease started in her middle 40s and the first symptoms were vertigo and headache. Slowly the patient began to neglect her homework, became absentminded, developed memory impairment and insomnia. After a few years patient became unable to perform any job, take care of her needs and became confused and disorganized. Toward the end she became irritable and incontinent. She terminated her days bedridden. No autopsy was performed.

Patient's two uncles and one aunt, on her mother's side, died after a long-lasting illness. This was characterized as in all the cases by an insidious, progressive process the main symptoms of which were forgetfulness, loss of interest in usual occupation, inability to perform simple acts and to recognize familiar objects, loss of memory and mental deterioration. At the end the patients became incontinent and bedridden. The cause of death in all these patients was given as "pneumonia." The disease started in their middle 40s and lasted an average of 10 years. In none of them was autopsy allowed by their relatives for religious reasons.

All this information has been obtained from the patient's sister who, at the time of the interview, appeared to be free from any symptoms. She arranged to have the patient released to her custody, because she felt it was her duty to take care of her as a religious obligation.

In summary, 6 members in 3 generations in this family suffered from a condition which can be identified as Alzheimer's disease, inappropriately named also, presenile psychosis.

SUMMARY

A familial organic psychosis of Alzheimer type is described in six kinships of three generations. The literature and the possible theories are reviewed and the hypothesis that Alzheimer is a heredo-degenerative disease of unknown etiology is supported.

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BEHAVIOUR THERAPY, SPONTANEOUS REMISSION AND TRANSFERENCE IN NEUROTICS

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Any general theory of neurotic behaviour must attempt to account for the main phenomena in this field of psychology, and its acceptability must in part depend on its success in thus creating a "nomological network" within which otherwise isolated events can be ordered and understood. One of the most important, most universal, and most widely acknowledged of these phenomena is that of *spontaneous remission*; as is well documented in several research reports(1, 2, 14, 18) neurotics tend to get better without any form of specific psychiatric treatment. This improvement appears to be a function of time; Eysenck(5) has suggested the following formula as descriptive of the situation:

$$X=100(1-10^{-0.00435N})$$

where X stands for the amount of improvement achieved in percent and N for the number of weeks elapsed. He comments that "while the exact values in this formula should not be taken too seriously, its general form is of course that of the typical learning curve with which psychologists are familiar."

It is also well-known that psychotherapeutic treatment, whether psychoanalytic or eclectic, does not accelerate this rate of recovery(1, 3, 5, 6, 8, 14, 15, 20, 23). Under these circumstances it may be worthwhile to take a closer look at the phenomenon of spontaneous recovery from a theoretical point of view in order to determine possible causative factors; it is clearly impermissible to implicate "time" as such, because it can only be *events* happening in time which can exert a causal influence, and our formula does not tell us very much about the possible nature of these events. It is the purpose of this article to present a theory of "spontaneous remission"; this theory is derived from a general body of knowledge sometimes referred to as "learning theory"(11, 13). It also links up with a rational theory of diagnosis and treatment

in neurosis which has been called "behaviour therapy"(6, 8) and which purports to achieve results superior to those for which "spontaneous remission" can be held responsible(7, 20).

Before proceeding to a discussion of this theory, we may note with some surprise that what may be called the currently prevailing "orthodox" set of psychiatric hypotheses, which are closely identified with psychoanalytic and "dynamic" notions, have nothing to say about spontaneous remission; indeed, they seem to suggest that such remission cannot occur, or that, where it does, it can only be of very short-term duration. This follows directly from the Freudian notion that neurotic behaviour is motivated by some underlying complex or complexes, and that the treatment of the symptom without some form of "uncovering" of the underlying complexes must lead to a recrudescence of the same, or the appearance of some other symptom. The evidence is decisively opposed to this belief (21, 22) and it is notable that no adequate documentation has ever been put forward by psychoanalytic writers who seem entirely to rely on anecdotal evidence, on repetition of doctrinal pronouncements, and on uncontrolled studies incompletely presented. Such an important point, one might have imagined, should have been established a little more securely before being accepted and interpreted as ruling out of court *a fortiori* all nonpsychoanalytic methods of treatment. As the evidence stands now we may perhaps say that the failure of symptoms to recur after spontaneous remission, or after some form of behaviour therapy, is a decisive argument against the Freudian theory.

How does behaviour therapy deal with spontaneous remission? In order to answer this question we must first state the main tenets of the general theory, without however being able here to bring forward all the supporting evidence; this task has been attempted elsewhere(5, 16, 20). For con-

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venience, we may number the points in order. 1. Neurotic behaviour consists of maladaptive conditioned responses of the autonomic system, and of skeletal responses made to reduce the conditioned (sympathetic) reactions. 2. While the term "symptom" may be retained to describe neurotic behaviour, there is no implication that such behaviour is "symptomatic" of anything. 3. It follows that there is no underlying complex or other "dynamic" cause which is responsible for the maladaptive behaviour; all we have to deal with in neurosis is conditioned maladaptive behaviour. 4. Treatment consists of the *deconditioning*, by reciprocal inhibition, extinction, conditioned inhibition, or in some other way, of the maladaptive behaviour, and the *conditioning*, along orthodox lines, of adaptive behaviour. 5. The treatment is a-historical and does not involve any "uncovering" of past events. 6. Conditioning and deconditioning will usually proceed through behavioural channels, but there is no reason why verbal methods should not also be used; there is good evidence that words are conditioned stimuli which have an ascertainable position on the stimulus and response generalization gradients of the patients(19).

Consider now a typical case history involving the establishment and cure of a cat phobia(9). A traumatic event involving the patient's favourite cat produces a conditioned fear of cats; this develops to such an extent that she is effectively home-bound for many years, refusing to go out for fear of encountering cats. Treatment is by means of graduated presentations of cats (first symbolically, *i.e.*, by words and pictures, then bodily, but at a distance, *etc.*) under conditions of relaxation and parasympathetic stimulation (desensitization, reciprocal inhibition). After a few weeks treatment is completely successful, and a permanent cure achieved (no relapse for several years). In this case history there is no spontaneous remission, and we may enquire 1) why such a remission might have occurred, and 2) why in fact it did not do so.

First, we have a traumatic event which, by means of classical conditioning, produces a conditioned fear reaction to a

previously neutral set of objects, *i.e.*, cats. It is easy to see how this conditioned fear arose, but it is not so easy to see just why it should have persevered so long. Solomon and Wynne(17), on the basis of their work with dogs, have offered the principle of "partial irreversibility" in avoidance conditioning, but it should be noted that the aversive stimuli in their case were probably stronger than in the case of the patient, and also that they report no single-trial learning, as seems to have occurred in this patient. On general learning-theory principles one would have expected the gradual *extinction* of the conditioned fear response in the course of time. Each time the patient saw a cat (the CS), without a recurrence of the traumatic events which precipitated her original fear (the UCS), this unreinforced presentation of the CS should lead to an increment of inhibition potential leading to extinction. Similarly, each time she discussed her troubles with a sympathetic listener this should have had an effect similar to that of "reciprocal inhibition," also leading to extinction of the fear response. In other words, behaviour theory seems to have no difficulty in explaining the extinction of neurotic symptoms by "spontaneous remission"; this extinction is the natural result of the inevitable recurrence of the CS in the absence of reinforcement. We may thus reinterpret our formula for the time course of spontaneous remission by saying, not that it resembles the typical learning curve, but rather that it resembles (and indeed is nothing but) the typical extinction curve. Our hypothesis, then, is that *all neurotic symptoms are subject to extinction*, and that this process of extinction is reflected in observable behaviour in the form of "spontaneous remission." The theory would appear to fit the facts reasonably well, but it would also appear to assert too much; not all cases of neurosis do in fact remit, and a theory predicting universal remission is clearly in need of an extension.

Such an extension is indeed implied in the first of our numbered postulates of behaviour therapy, given above, in which attention was drawn to the importance of "skeletal responses made to reduce the conditioned (sympathetic) reaction." What is asserted here is that in many cases of

neurosis the original stage of classical conditioning is followed by a stage of instrumental conditioning, and that it is this secondary development which makes impossible the process of extinction by removing the conditions of its occurrence, *i.e.*, the presentation of the CS under conditions of non-reinforcement. Consider the events in the laboratory during the extinction of a conditioned response. The dog, lashed to his stand, is presented with the CS a number of times; his conditioned responses get weaker and weaker until finally they cease altogether. This paradigm differs profoundly from that of our patient encountering a cat in the street after her conditioned fear has been established. The patient is not lashed to a stand, and thus forced to witness the conjunction: CS-non-reinforcement; she is free to turn her back and run away. This course of conduct produces an entirely different paradigm, one favourable to the growth of an instrumental response of running away from cats. Simplifying the situation grossly, we may say that what happens is something like this. The patient approaches the cat and experiences a conditioned sympathetic response (fear) which is profoundly disturbing and (negatively) reinforcing. She turns and runs, thus excluding the cat from her field of vision, and also increasing the distance between herself and the feared object. This behaviour reduces the sympathetic arousal, and is thus reinforced by the resulting lessening of fear. The next time the patient encounters a cat, the newly acquired habit of running away will again, and more easily, be brought into play, until finally an instrumental conditioned response of running away is developed to such an extent that it permanently excludes the possibility of encountering the CS at all. In this way the secondary process of instrumental conditioning "preserves" the primary conditioned response; putting the whole matter into psychiatric terminology, instrumental conditioning makes impossible the "reality testing" of the classically conditioned response.

There is no doubt, of course, that in most cases the situation is much more complex than this. The original conditioning is not always, and perhaps not even usually, a traumatic, single trial event; repeated sub-

traumatic trials may produce an even stronger conditioned fear response than a single traumatic event. Little is known about the precise dynamics of this process in individual cases, largely because psychiatric attention has not usually been directed at these events from the point of view of learning theory. Again, few neuroses are mono-symptomatic, and there may be a very complex interweaving of several different habit-family hierarchies (12, 20), each subject to extinction at different rates, and by exposure to different events (CS's). Lastly, experience indicates, and theory suggests, that extinction of conditioned fear responses in one habit-family hierarchy facilitates (through a process of generalization) extinction in others, whether this extinction is occurring during "spontaneous remission" or during behaviour therapy. To mention these complications, to which many others could have been added, is simply to remind the reader that while in principle the explanation of spontaneous remission here given is perhaps correct, nevertheless much experimental and observational work remains to be done before the details of the process can be said to be at all well understood.

It is interesting to note that several observationally well attested phenomena can be brought into this theoretical framework. Consider the pilot who has crashed his plane, or the cowboy who has been thrown by his horse. It has often been stated that if the pilot, or the cowboy, is allowed to walk away from the plane, or the horse, he will never fly, or ride, again. If, however, he makes himself fly or ride again immediately, then there will be no such disastrous after effect. We may regard the original event as productive of a conditioned fear reaction to planes or horses; this by itself would not be strong enough to preclude future resumption of the particular activity which produced the traumatic event. However, bodily removal from the now feared object produces instrumental conditioning, along the lines indicated above, and it is this additional process of avoidance conditioning which, when superadded to the original classical conditioning, makes the total aversive forces too great to be overcome.

Much the same explanation could be given to the well-known fact that psychiatric casualties during the war tend to go back to combat easily and readily if treated in front-line conditions, but hardly ever if sent back to base hospitals first and then treated. Here also the part played by classical conditioning is fundamental, but can be counteracted by a process of extinction in the front-line situation; if instrumental conditioning is allowed to add its share, *i.e.*, through removal of the patient to a base-line hospital, prognosis is poor because now *extinction is made almost impossible!* Other applications of this general theory will easily occur to the reader.

This may be an appropriate place to consider another event which is frequently claimed to be an almost invariable concomitant of the therapeutic process, namely *transference*. Here there is indeed a psychoanalytical theory to explain the phenomena alleged to occur, namely, the development of certain strong emotional feelings on the part of the patient for the analyst (and perhaps vice versa). This theory depends on the *transfer* of certain childhood emotions originally attached to the parents; these, it is suggested, are transferred to the analyst. Now there is little doubt that such emotional dependence does in fact occur, although there is very little well-established evidence to suggest just how frequent, how strong and how lasting such emotions are. Indeed, similar facts have been known to occur in the Catholic confession for many hundreds of years, and the priest taking the confessional is taught how to deal with these feelings. How does behaviour theory account for the facts?

In the first place, it is important to dissociate T_F (the facts conveniently summarized under the heading "transference" and T_T (the psychoanalytic theory of literal "transference"). The writer would hold that T_F is a real phenomenon requiring an explanation, but that T_T is a speculative theory without any sound experimental background. It is unfortunate that the name for T_F immediately suggests the truth of T_T ; it might be better if a more neutral name were to be chosen. In any case, it will be clear from what has been said that when it is stated that behaviour therapists

reject the notion of transference, what is meant is a rejection of the speculative theory, and not of the facts themselves.

As for an alternative theory, consider the position of the therapist in his relation to the patient. Whether because of spontaneous remission, or because of the reciprocal inhibition produced by the permissive attitude of the therapist, there is a tendency for the patient to improve. Consider the therapist as a CS in this situation, consider the unknown cause of the improvement as the UCS, and consider the improvement and its attendant emotions and feelings as the response. It will be clear that there will be a tendency for the therapist to be credited with the properties of the UCS, through a process of classical conditioning, and that attitudes and emotions appropriate to the latter are shifted to the former. A well-known example is given by Pavlov, who reports that when an electric light was used as the CS for a feeding-salivation experiment, the dog after a while licked the light bulb! In other words, there is a transfer of reactions appropriate to the UCS to the CS. As an example of such a transfer in a human subject, consider Connie, a 5-year-old girl being treated for enuresis by means of the well-known bell-and-blanket method(10). When the first signs of a cure became noticeable after 4 applications, she spontaneously kissed and hugged the red light on the apparatus which illuminated the switch activating the bell, saying "The ting-a-ling is my best friend." No doubt it would seem almost sacrilegious to many psychiatrists to consider this analogous to full-blown "transference," but the fundamental identity or lack of identity of the processes involved must be established on a more experimental basis than mere shocked disbelief. The explanation here given accounts for the facts as well as does the Freudian, and in addition it is based on well-documented laboratory experiments; nevertheless it would be most desirable to submit it to direct experimental investigation before regarding it as anything but an hypothesis.

This paper has been kept short on purpose, being purely theoretical in the first place, and lacking direct experimental support in the second. It would be idle guess-

work to extend speculation beyond the points raised, although promising extensions do suggest themselves in considerable number. Its primary purpose, however, will have been served if it reawakens interest in the phenomena of spontaneous remission and transference, and leads to more experimental investigations of these interesting and perhaps even crucial events in the life-history of the neurotic. The formulation of an explanation in terms of learning theory here given is not the only one possible, and it may not be the one preferred by other psychologists; it may nevertheless repay investigation. But primarily it is hoped that the reconsideration of these phenomena will serve to raise doubts about the adequacy of that "premature crystallization of spurious orthodoxy" which is present-day psychoanalytic theory.

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APHASIA : A REVIEW

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In 1861 Broca opened the subject of aphasia for medical discussion and research. As if to celebrate the centenary of this event, three books (1-3) have recently been published on the subject of aphasia: so it seems appropriate to review our present knowledge both for celebration of these hundred years, and because, as I hope to show, there may be reasons for expecting new advances on the basis of recent work. In addition, emphasis will be laid on what there is of clinical value in our present understanding, and on what I think is a substrate of agreement by most authors, a substrate obscured by theories and innovations of terminology.

The word "aphasia" in classical Greek was used for the speechlessness induced by strong emotion (fear or surprise). Today its use is restricted to disorders of speech central in origin but organic in nature. Thus the term would neither include an hysterical aphonia nor disorders due to lesions of the motor apparatus (*i.e.*, the dysarthria of lower motor neuron and muscular disease, the scanning speech of cerebellar lesions, the explosive utterance of pseudobulbar palsy, and other less well-defined disorders such as the speech of parkinsonian patients). In addition to these restrictions the word has also undergone an extension of meaning to include defects of comprehension, where these are of cerebral origin and not consequent on, *e. g.*, eighth nerve deafness.

Before Broca in 1861 it is possible to discern glimmerings of discussion in earlier writers such as Dax; but aphasia before Broca was like the theory of evolution before Darwin. His contribution was revolutionary for two reasons, both of which have had and will continue to have implications far beyond the field of aphasia. Firstly, he introduced the concept of cerebral dominance, or, as I would rather say, asymmetry of hemispheric function for higher mental functions. Since the experience of

Hippocrates with traumatic cases, it had been known that the right hemisphere controlled the left half of the body in crude motor acts, and the left hemisphere the right half of the body. But on the basis of his twenty patients Broca enunciated the theory that "one speaks with the left hemisphere" ("on parle avec l'hémisphère gauche"). Repeated series of patients studied since that time have only served to reinforce the essential truth of his observation. It seems that in the overwhelming majority of right-handed people the conceptual aspects of speech are dependent on the integrity of the left cerebral hemisphere. In left-handed subjects the question is more complex. Over half of them seem to have a left hemispheric dominance for speech, despite their left-handedness. Others have a right hemispheric dominance or a mixed dependence on both hemispheres. This observation of Broca thus opened the door to a new world of questions about psychophysiological function. For example, we would like to know why the relation between speech and handedness exists, and, indeed, the relation between genetic endowment and environment in the determination of handedness. (In his well-written but somewhat overargued book *The Master Hand* Dr. Blau attempts to show that dextrality and sinistrality are entirely of environmental determination, although some of the evidence he himself adduces, such as Gesell's twin studies,² surely disprove his view.) In addition, the discovery of dominance for speech was followed by observations of hemispheric dominance for cognate mental functions such as reading, writing, calculation, and the appreciation of music, as well as less obvious factors such as the constructional apraxia found in lesions of the left parietal lobe. More recently it has been pointed out that while the left hemisphere may be dominant for speech and related activities in right-handed subjects, the so-

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² Concordance for handedness was found in all but one of 253 pairs of identical twins, but of 161 dizygotic pairs 26 were discordant.

called "minor" hemisphere, the right, may play a preponderant part for other mental functions. For example anosognosia (neglect or denial of a hemiplegic limb) is common in right hemispheric lesions, and rare in left; prosopagnosia (inability to recognise faces, confusion of sexes, and similar disorders)(4) seems commoner with lesions of the right hemisphere; and it has been suggested that the occurrence of complex visual hallucinations in temporal lobe epilepsy is in favor of localisation of the lesion in the "nondominant" hemisphere. On these subjects it is possible to think of many fruitful questions for research(5).

Apart from the matter of cerebral dominance, Broca's contribution raised the question of cerebral localisation of higher mental functions. Dominance is itself a crude type of localisation; so it was natural to ask whether the different categories of speech disorder could be, as it were, "sub-localised" within the dominant hemisphere. For it seemed to be agreed that there were different species of aphasia, although writers might attempt to be original, while merely introducing a new terminology. These may be listed as follows:

1. *Expressive*: Synonyms for this are subcortical motor, verbal, and "Broca's." In this type of aphasia the patient retains ability to comprehend spoken speech, but is unable to speak himself. Included also are patients who retain a vocabulary of one or two words, usually "Yes" and "No." Sometimes these patients' vocabulary will be restricted to an oath, which they will use for any purpose, to express any proposition or feeling. The most famous patient of this type is probably Baudelaire, who during his aphasic period could only say "cré nom." This preservation of oath when declarative speech is absent might be taken as a text for a sermon on how much more deeply rooted are our emotions than our intellect.

2. *Receptive*: Synonyms are word deafness, auditory, sensory, and semantic aphasia, and "Wernicke's" aphasia, since Wernicke wrote particularly about this type. Here the defect is the reverse of type 1, since the patient has a defect of comprehension but is able to express his wants and feelings. Brain quotes a patient who said "Voice comes but no words. I can

hear, sounds come, but words don't separate. There is no trouble at all with the sound. Sounds come, I can hear, but I cannot understand it."

3. *Syntactical*: Synonyms are subcortical and conduction aphasia, paraphasia, paragrammatism, and jargon aphasia. Here the patient's speech is marred by poor grammar, omission of certain parts of speech (leading to a so-called "telegraph style"), and may even approach a word salad. This form of aphasia is often accompanied by defects of comprehension and is then called "central" aphasia by some. But it seems on occasion to occur alone.

4. *Nominal*: Sometimes called "Anomia."³ In this form of aphasia the patient can understand speech and form sentences, but finds difficulty in naming objects when requested. It often seems strange that a patient able to form such elaborate periphrases as "thing you tell the time with," is yet unable to say "watch." *A priori* one might be inclined to dismiss nominal aphasia as a *forme fruste*, a touch, as it were, of expressive aphasia, but, as we shall see, there are good reasons why it is assigned to a category of its own.

Although, by the nature of the clinical causes, the above types of aphasia may occur in mixed forms, there seems to be agreement that they can and do occur frequently enough in "pure culture" to make the above classification reasonable. Thus the question arises naturally whether we can localise the different types in different areas of the dominant hemisphere. Here again there seems to be agreement that the expressive difficulties tend to occur with more anteriorly placed lesions and that receptive difficulties more posteriorly in the "speech quadrilateral" (an area which stretches from the third frontal convolution anteriorly to the region of the angular and supramarginal gyri posteriorly). Syntactical difficulties are conventionally assigned to lesions affecting the commissural fibres between these areas. Nominal aphasia seems to be produced nonspecifically from a wide area

³ Anomia (= "lawlessness" in Greek) was originally applied to the antisocial behavior of post-encephalitic children, but, by confusion of the word "nominal" (from Latin "nomen" = a noun), has invaded the field of aphasia.

of cortex both within and outside the speech quadrilateral. Authors may differ in the degree to which they are prepared to be precise in their localisation of the different forms of aphasia, but of the general tendency of anterior lesions to give rise to expressive difficulty and the posterior to receptive there seems to be little disagreement.

The evidence adduced for these localisations had until recently been clinicopathological, *i.e.*, the correlation of the type of aphasia found clinically, with the post-mortem findings. There are obvious difficulties and objections to such crude correlations. But recently they have received some striking confirmation from the work of Wilder Penfield and his associates, who observed the defects of speech consequent upon electrical stimulation of different areas of the exposed cortex of conscious man, as well as those following restricted cortical excisions. They tended to confirm the difference between anterior and posterior lesions, as well as the nonspecificity of the localising value of nominal aphasia. (Incidentally they showed the possible importance for speech of an area outside the "speech quadrilateral," the "supplementary motor area." This would correlate with the speech disturbances occasionally found in parasagittal meningiomas(6).)

On the basis of the above categories of aphasic defect found clinically and the anatomical substrates found pathologically there has arisen a profusion of semiphilosophical theories, either taking the form of

diagrams joining the various "speech areas" in the form of electrical circuits, or of logical schemas purporting to explain the cerebral mechanisms behind speech and its acquisition and decay. All of these theories are open to objections of a logical and philosophical kind, and are in any case without any evidence to support them. But even the little we know seems encouraging in view of the agreement between so many authors, and the possibilities for the future. I would venture to prophesy that these lie in two directions : firstly, in a more rigorous examination of the case material such as I have suggested in questions of handedness, dominance, the relation of speech defects to the loss of other faculties, *etc.*; secondly, in the employment of quasi-experimental techniques such as those used by Penfield in electrical stimulation of the conscious cortex. Such techniques have often invaded biological studies in the past half-century to their great enrichment.

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THE ARMY, THE SOLDIER AND THE PSYCHIATRIST

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The purpose of this communication is to re-examine some concepts of intensive psychotherapy, particularly as they apply to the military population. Psychotherapy has been defined in many ways although the difficulty in defining it, as well as in learning, understanding and applying its principles, has been noted(1). It has been defined broadly as any emotional contact that makes somebody feel better, and more narrowly as "an interview technic practised purposively by people trained to do it, who aim at getting the patient better and who, in the patient's eyes, are healers"(2). It is this latter definition which is most useful for our purposes. By intensive therapy is meant that which deals primarily with intrapsychic phenomena, has insight into unconscious determinants of behavior as a goal, and is not restricted to providing support and environmental manipulation.

The proposal to be advanced here is that, as defined above, effective intensive psychotherapy among active duty military personnel (and particularly with outpatients) is not feasible and perhaps not even possible. Those factors inherent in the military situation and those operative upon both the military patient and the military psychiatrist which reduce the effectiveness of such therapy will be examined. These observations were made at a large Army basic training center but the principles seem applicable to other military installations as well.

The Military Situation. Szasz has called attention to the psychotherapeutic difficulties which arise whenever the therapist has divided loyalties. He feels these are inherent in the training analyses of candidates in psychoanalytic institutes, in the military service, in prisons and in several other situations(3, 4). In October of 1920 Freud presented a report to the Austrian Medical Commission, investigating alleged harsh-

ness in psychiatric treatment methods among Austrian military doctors in World War I. Freud pointed out the conflict between a doctor's duty to put his patients' interests always first and the demand of the military authorities that the doctor should be chiefly concerned with restoring patients to military duty(5). Thus we hear the oft repeated Medical Corps phrase "You are an [Army] officer first and a doctor second"—and, we might add, a psychiatrist third. It is this split loyalty which, by its very nature, precludes effective intensive psychotherapy.

The motto of the Medical Corps "To Conserve Fighting Strength" is one of the primary guides for the Army psychiatrist. Duty performance, not personal happiness, thus becomes both the criterion for individual and group effectiveness and an index of mental health as well(6). When the soldier does not perform his duty, for whatever reason (including symptoms), several alternatives are possible. He may be counselled or admonished, transferred to another duty assignment, hospitalized, punished or separated from the service. And, this is the crux of the matter, it is the psychiatrist who largely decides what becomes of the soldier who does not perform.

He is guided by a set of regulations, to be sure, and the usual military tribunals still exist but it is the psychiatric certificate that is crucial to the soldier's disposition. How then can we expect the soldier to place enough trust in the Army psychiatrist to voice those very personal and perhaps even antisocial thoughts and feelings so necessary for progress in intensive psychotherapy?

The Patient. And what of the soldier himself? He lives in a world of physical activity where the premium is on strength and duty performance, not on introspection and verbalization of personal problems. It is a world of frequent, and often sudden, temporary or semipermanent changes in duty station.

The soldier is concerned about his career; he is often preoccupied with what information will be placed in his medical

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records and how this will affect his next promotion. He is particularly reticent when it comes to revealing intimate information about himself. For example, he knows that army regulations require separation from the service for any homosexual acts (even repeated thoughts will do) should they be revealed. At our post few officers will come to the Mental Hygiene Clinic for help because of this concern about privileged communication. They seem to know just whom the psychiatrist must primarily represent. Some even object to their wives seeking help for the same reasons.

Of course most active duty personnel come to the Mental Hygiene Clinic psychiatrist quite frankly to ask for discharges, compassionate transfers, or changing of overseas orders and not for relief of symptoms. We frequently hear the comment "I heard that this was the place to get my orders changed" (or to get out of the Army). Those few soldiers who initially seek help for symptoms soon focus upon real or imagined injustices on the job or in duty assignments.

So psychotherapy becomes possible only under one of two conditions: 1. If there is some sort of agreement on the part of the psychiatrist not to record or reveal everything which occurs during the interviews (an agreement that makes the psychiatrist negligent in his efforts to represent the military, as well as derelict in his duties as prescribed by Army regulations) or, 2. If the patient withholds these "illegal" thoughts or acts from the psychiatrist. It is not hard to imagine the therapeutic difficulties under either condition. Concerning the former we cite Waelder: "In totalitarian societies of our time . . . every day will the analyst . . . find himself confronted with the alternative of either, through his silence, becoming the accomplice of an illegal act—*qui tacet consentire videtur*²—or setting

himself up as an executive agent of the government . . . the analysis itself will probably be wrecked in either case" (7). And, for the latter condition, one is reminded of Freud's comment on withholding information (in analysis): "It is a most

remarkable thing that the whole undertaking becomes lost labour if a single concession is made to secrecy" (8).

The Psychiatrist. And what of the Army psychiatrist? He, like any soldier, must train for combat and be prepared for sudden transfer to areas of crisis. His training must include overnight field trips, weapons firing on the range, gas chamber exercises, map reading tests, etc. The psychiatrist also has frequent military, medical and psychiatric obligations off the military post. The author made a trip to a prison some 300 miles away to evaluate an inmate and a longer trip to screen applicants for the United States Military Academy. He received a week of schooling in leadership off the military post and served a tour of duty as medical officer at a summer troop training camp (as well as working in post medical dispensaries and emergency room).

The result of these military demands on the psychiatrist's time, as he also functions as soldier, officer and physician, is a continuous cancelling and juggling of appointments from week to week with both patient and psychiatrist uncertain when they will next meet. How then can the military psychiatrist be expected to employ intensive psychotherapeutic technics when one of his most important tools, a regular appointment time, cannot be guaranteed to his patients.

Comment. Thus the active duty soldier cannot be expected to effectively utilize the military psychiatrist in a traditional way. Recent military publications now stress the importance of preventive psychiatry and of working with group characteristics rather than with individual problems in the military population (6, 9, 10). On the job psychiatric evaluation with improved performance of duty is stressed and much enthusiasm has been generated among both medical and line officers for this Mental Hygiene "Field Clinic" type of program.

SUMMARY

Some concepts of psychotherapy in the service have been discussed, considering the military situation, the military patient and the military psychiatrist. The proposal has been advanced that effective, intensive psychotherapy among active duty military

² He who keeps silent gives the impression of agreeing.

personnel is not feasible and perhaps not even possible.

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ABSTRACTS

A PSYCHIATRIC CASE REGISTER CONFERENCE

ANITA K. BAHN, Sc.D.¹

Epidemiologic information on patients of psychiatric hospitals and outpatient facilities have been available for a number of years through a nationwide reporting program. However, because of the increase in number and types of psychiatric facilities and the rapid flow of patients among these facilities, reports from different facilities referring to the same individual must be collated or linked in order to provide a coordinated record for the individual. In essence, such record linkage constitutes a case register.

Two statewide and five community psychiatric case registers have been established to date. On June 7-8, 1962 at Bethesda, Md., a conference of representatives of these 7 case registers was held under NIMH auspices² 1) to review the on going psychiatric case registers in the country, their objectives, and preliminary findings, 2) to discuss common problems in collection and analyses of data, and 3) to develop, where possible, comparability among registers with the goal of designing cooperative studies.

The principal conference topics of interest to the psychiatrist were: the uses of psychiatric case registers, reporting aspects, and the need for and confidentiality of identifying data.

Uses of psychiatric case registers. Uses of the register may be summarized under two headings: operational research and epidemiologic research.

Clinicians and administrators want to determine the answers to a series of questions: What are the needs and the fate or prognosis of a patient population? How large is the patient population? How long is the typical treatment period? Is treatment provided in two or three different facilities or in only one? If the former, what is the sequence of care? What proportion of the

treatment time is spent in an institution? Does the patient spend long intervals at home or does he go rapidly from one institution to another? What happens to the individual who drops out of clinic care—is he likely to return to a psychiatric facility?

Without a case register, one cannot identify the same individual as he enters the system of psychiatric facilities, moves around in it, leaves it, and perhaps re-enters it later. At present, we may obtain data from all treatment settings but cannot follow an individual through them. Therefore, some persons are counted a number of times and there is no clear understanding of the logistics. We cannot say with certainty how many individuals with certain characteristics received care during a one- or two-year period. This study of the relationship of the various kinds of psychiatric facilities to the various kinds of patients may be called operational or administrative research.

Epidemiologic research is also facilitated by the case register. Answers can be obtained to such questions as: What is the course of illness following first clinical contact? What is the frequency and duration of recurrent episodes of care and the eventual outcome? How do the reported diagnoses and symptoms change with time and how reliable is the diagnostic classification? How does the fate of the person diagnosed relatively early in the course of his illness differ from that of the person first diagnosed at a later stage? Do persons identified through community surveys or other medical records as "high risk" groups actually become mentally ill at a greater rate than those not so earmarked? What follow-up services aid in the prevention of readmission?

Thus, a register is a mechanism for closing some of the gaps that now exist in our administrative and epidemiologic knowledge of mental illness.

Reporting aspects. For purposes of mor-

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² Public Health Reports, Dec. 1962.

bidity studies, a case register should include all mentally ill individuals who are identified by case finding and service agencies but data are obtained primarily from public facilities. Private psychiatry would seem as important a source of information as public psychiatry since patients frequently move from one type of care to another. Also, the distribution of mental disorders by demographic and socioeconomic characteristics and the lifetime pattern of disease cannot be studied adequately without data from private psychiatrists. Because of its research potential, it is probable that many private psychiatrists would wish to report to a register which adequately safeguards patient identity. Data from one of the registers in which half of the cases reported during the first year were private patients illustrate the feasibility of obtaining reports from private psychiatrists and the importance of such data.

Continued reporting interest and cooperation is necessary in order that complete and accurate information flows into the register. Obviously, the research output can be no better than the quality of data input. Registers should represent a cooperative research program in which the clinicians participate in determining the data to be collected and in designing the research studies and statistical analyses, both on the entire register population and on the agency's own patients. Data "feed-back" through periodic and special statistical reports was considered essential. Involvement of psychiatrists, sociologists, demographers, and others in this research will enhance its intrinsic value and broaden its application.

Identifying data. The register staffs agreed that no method exists for linking reports on persons seen by different facilities unless the patient's name is reported. This fact is emphasized because of the belief by some that record linkage is feasible without name reporting. However, no preassigned person-number is available for all individuals; Social Security numbers, for example, pertain to only a selected portion of the population. A number of persons have the same birthdate, and furthermore, the birthdate is often inaccurately reported. No unique factor or combination of factors without name,

therefore, is available for record linkage. For these reasons the reporting of a patient's name has been supported by the executive committee of the American Psychiatric Association, which stated that, where adequate safeguards are provided, supplying a patient's name, address and diagnosis in governmental reports comes within the purview of ethical practice.

Once records are linked, identifying data can be coded, placed on electronic tape, or otherwise dissociated from the psychiatric data file. These and other safeguards with regard to identifying information reported to the register are both desirable for the patient, and necessary to obtain reporting cooperation. If research is the sole aim of the register, assurance should be given to reporting agencies and physicians that the register will not be used for any purpose other than research. If direct service or case management are additional register objectives, reporting agencies should be assured that identifying information will be used only for these purposes. Legislation which protects the confidentiality of identifying information collected in such research surveys is recommended.

SUMMARY

Case registers have long been a tool for administration and for epidemiologic research in tuberculosis, rheumatic fever, venereal disease, and cancer. Their use as a research tool in mental illness is relatively new. Mental disorders pose problems of definition and classification that are different from problems faced in other disorders; except for the organic disorders and suicide, associated death is less common than with some other illnesses, and the impact of mental illness on the individual and the community is unique. Many problems arise, therefore, in the establishment of psychiatric case registers which require new solutions and sophisticated methodology. But the yield to the psychiatrist, program planner and other interested persons in terms of new knowledge in this field may be immeasurable.

The comments of psychiatrists and other professional persons on this new program are invited.

DRUG-WITHDRAWAL PSYCHOSES

I. PIERCE JAMES, D.P.M.¹

Isbell, *et al.*(1), showed that when the drug was abruptly withdrawn after a period of chronic barbiturate intoxication an acute withdrawal psychosis clinically resembling delirium tremens occurred in 3 of 5 cases studied. Similar acute withdrawal psychoses have also been reported in association with other drugs having a hypnotic action on the CNS(2, 3). In the writer's experience this condition is not uncommonly encountered in general hospital practice—although its nature is not always recognised.

Habituation and addiction to sedative drugs are much more prevalent than is often realized(4, 5). However such patients seldom disclose their addiction voluntarily and the symptoms of chronic drug intoxication (depression of mood, irritability, poor memory and concentration, episodic drowsiness and ataxia, *etc.*) may mimic other forms of psychiatric, neurological or medical illness. If such a patient is hospitalized for investigation, *etc.* (and consequently deprived of his customary dose of the drug concerned), he may develop a withdrawal psychosis 2 to 3 days after admission. The course and clinical features of acute sedative drug withdrawal psychoses may be identical with those of delirium tremens. However when no history of alcoholism is forthcoming (and if the patient does not disclose his drug consumption) the episode is usually regarded as a toxic or infective delirium and the physician is surprised when subsequent investigations fail to disclose any underlying pathology.

The three patients described below developed a drug withdrawal psychosis between 24 and 56 hours after admission to a general hospital. All had been addicted to and consumed large quantities of some sedative drug prior to admission but had not disclosed the extent of this to the hospital staff. In each instance excessive alcohol consumption could be discounted.

Case 1. A 42-year-old single woman had

been under psychiatric care for 5 years and habituated to various hypnotics.

In June 1962 she was admitted to the surgical ward of a general hospital for investigation of abdominal pain. On admission she was noted to be 'excessively drowsy' but next day was 'agitated and restless.' She became acutely disturbed 48 hours after admission and presented the clinical picture of delirium tremens. She was totally disoriented in time and place and vividly hallucinated. She answered hallucinatory voices and reacted violently to bodily hallucinations—including abdominal and genital sensations which she interpreted as labor or coitus. Her delirium remitted after 4 days and it was learned that she had been taking large quantities of chloral hydrate (over 6.0 gm. per day) prior to admission. Extensive clinical and biochemical investigations disclosed no other cause for her delirium.

Case 2. A 46-year-old woman had been admitted to a general hospital on three occasions between 1958 and 1960. On each occasion she had developed a confusional psychosis with agitation, disorientation, hallucinations, *etc.*, but extensive investigations had not disclosed any pathology to account for her delirium and the nature of her illness remained obscure.

In July 1961 the patient was transferred to a psychiatric reception unit under certificate with the diagnosis of delirium tremens and when seen there by the writer presented the typical features of that condition. Three days previously she had been admitted to a private hospital and had become acutely disturbed 36 hours later. The husband was indignant at the diagnosis. He insisted she did not drink—but stated that for a long time he had found half-empty packets of carbromal tablets hidden in her room. She disclosed that she had been taking 20 or more tablets a day for years.

Scrutiny of the hospital records showed that on each occasion her sensorium had been intact on admission but that she had become delirious 2 to 3 days later. For this reason (and as her serum bromide was below 80 mgs.%) carbromal-withdrawal and not bromism was almost certainly the cause of her confusional psychosis.

Case 3. A 40-year-old woman was admitted to hospital because of barbiturate addiction. For some months she had been taking 15 or

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more capsules of Nembutal (sodium pentobarbital 1.5 gm.) per day. The pentobarbital was withdrawn and in spite of chlorpromazine therapy she developed a marked withdrawal state with agitation and tremulousness, but remained well oriented and reasonably cooperative. She had a major epileptic fit 56 hours after admission and after recovery from this she became acutely disturbed, disoriented, deluded and hallucinated. The clinical picture resembled that of delirium tremens. Her delirium remitted over the space of 48 hours but she remained very tense and tremulous for some days.

Although delirium tremens is a common clinical condition, perusal of contemporary textbooks of psychiatry reveals some controversy over its precise aetiology.

Mayer-Gross, *et al.* (6), write "it is now probable that the direct cause is a nutritional deficiency caused by or associated with alcoholism," but Thompson (7) states that it is the "direct result of the effect of alcohol on the brain" and "not due to avitaminosis or other nutritional deficiencies."

However most authors agree that alcohol withdrawal is a usual if not invariable antecedent to the delirium tremens. Hart (8) regards delirium tremens as a variant of the alcohol withdrawal syndrome which occurred in 39 of 175 patients studied by him with this syndrome.

In the writer's view there are reasons for regarding the syndrome of delirium tremens simply as the occurrence of a confusional psychosis in association with the alcohol (or drug) withdrawal syndrome. The form and content of the delirium is determined by the psychic and somatic manifestations of the withdrawal state (the restless agitation, tremulousness, rebound ataxia, startle phenomena, *etc.*, are also seen in the withdrawal syndrome without delirium; whilst the characteristic haptic and motility hallucinations probably occur as a confusional misinterpretation of sensations arising peripherally or within the hyper-excitable CNS).

This association may arise spontaneously as a severe withdrawal reaction after sudden or relative deprivation of alcohol. It could also occur if a confusional state develops (following an epileptic fit, as a toxic mani-

festation of inter-current infection, dehydration, metabolic disorder, *etc.*) during a period of chronic alcohol intoxication and leads to withdrawal of alcohol because the patient is too disorganized to continue his drinking or is otherwise deprived of his customary supply.

If this view of delirium tremens is correct then there is no essential difference between the tremulous withdrawal psychosis of barbiturate addiction and the delirium tremens of alcoholism. The three patients described developed an acute withdrawal psychosis indistinguishable from delirium tremens following withdrawal of chloral hydrate, carbromal and pentobarbital respectively.

SUMMARY

Three patients who developed drug-withdrawal psychoses clinically resembling delirium tremens two to three days after admission to a general hospital are described. All three had been addicted to a hypnotic drug (chloral hydrate, carbromal and sodium pentobarbital respectively) prior to admission but had not been taking alcohol.

It is suggested that the syndrome of delirium tremens results from the association of a confusional psychosis with the alcohol (or sedative-drug) withdrawal syndrome and that the tremulous withdrawal psychosis of sedative drug addiction and the delirium tremens of alcoholism are clinically identical.

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THE RELATIONSHIP BETWEEN SEROTONIN ANTAGONISM AND TRANQUILIZING ACTIVITY¹

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C. A. STEELE, M.D., AND C. D. NOBLIN, Ph.D.²

Methysergide, 2-methyl lysergic acid butanolamide (UML-491),³ is considered to be the most potent serotonin antagonist available at the present time. It has consistently shown maximum antiserotonin activity against serotonin edema induced in rheumatoid patients and maximally inhibited the bronchospasm induced in guinea pigs by serotonin aerosol (2).

A fair degree of correlation has been reported to exist between the central serotonin antagonist activity of the phenothiazines and their tranquilizing activity in laboratory animals (3, 4). The benzyl analogue of serotonin, BAS, an entirely different type of compound with a definite antiserotonin effect, was evaluated in a group of chronic psychotic female patients, and the most prominent beneficial action seen in 22 of 24 patients was that of tranquilization (2).

However, at least one serotonin antagonist, BOL-148, has shown no tranquilizing activity although some sedative value has been attributed to it (1).

RESEARCH DESIGN

In view of these divergent findings, it was decided to investigate this area further on a clinical level. Under double-blind conditions, effects of the new compound methysergide (UML-491) were contrasted with effects of placebo and chlorpromazine in a group of chronic schizophrenics who had been off all medications for at least 60

days. Forty male and female subjects were divided at random into three groups, equated on such variables as sex, age, length of hospitalization, *etc.* The total period of study was 12 weeks, with maximum dosage of chlorpromazine (800 mg. daily) and methysergide (16 mg. daily) attained at the beginning of the fifth week. Measures employed in the evaluation of drug effects included the Lorr Psychiatric Rating Scale, Overall and Gorham Psychiatric Rating Scale, independent global ratings of improvement by two psychiatrists and the research nurse, the Tulane Research Battery of psychological tests, and routine laboratory measures.

RESULTS AND CONCLUSION

None of the rating measures employed demonstrated any difference in therapeutic effect between methysergide, the most potent antiserotonin drug available, and placebo. Chlorpromazine did produce a definite beneficial effect, with 56% showing significant clinical improvement over their baseline studies. There was excellent reliability among the various clinical measurements.

These results would appear to question the concept of a direct relation between serotonin antagonism and tranquilizing activity.

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³ UML-491 was supplied by Sandoz Pharmaceuticals, Hanover, N. J.

CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

VALIDATION OF THE DIFFERENTIAL TREATMENT SUCCESS OF "A" AND "B" THERAPISTS WITH SCHIZOPHRENIC PATIENTS

BARBARA J. BETZ, M.D.¹

A follow-up study was done on discharged patients who were classified as "improved" or "unimproved" in the Whitehorn and Betz studies(1-3). The readmission rates of the patients during the 5-year follow-up indicate that the original assessments, based on psychiatric judgment and patient behavior, had a significant predictive validity.

In 1954 Whitehorn and Betz reported the results of research concerning the characteristics of physicians who were differentially successful in treating hospitalized schizophrenic patients at the Henry Phipps Psychiatric Clinic. From a group of 35 resident psychiatrists of comparable clinical experience 7 were selected who achieved a high "improvement rate" and 7 were selected who achieved a low "improvement rate."

"The improvement rate of schizophrenic patients achieved by each of the 35 physicians was . . . calculated by dividing the number of patients discharged as 'improved' by the number treated. The 35 physicians were then listed in descending order. The improvement rates were found to range from 100.0% to 0.0%; the average improvement rate was 56.6%. The 7 high-ranking physicians (. . . referred to as group A physicians), with improvement rates ranging between 68.0% and 100.0% (average 75.0%) and the 7 low-ranking physicians (. . . Group B physicians) with improvement rates ranging from 0.0% to 35.0% (average 26.9%) . . ." were selected and compared (1).

The two groups were compared relative to the kinds of relationship formed with the patient, to the doctors' perceptions of patients as recorded in their diagnostic formulations, to the type of strategic goal selected by the physician and the type of tactical pattern(2). The A and B doctors could be differentiated from each other by such patterns. A further study was done in which the treatment results of "an entirely new series of patients," 109 hospitalized schizophrenic patients, were evaluated. In this study the research results were consonant with the earlier findings (3). It was further found that the A and B doctors could be differentiated from each other by the use of selected items and scales of the Strong Vocational Interest Inventory(4).

For the purposes of these studies the patient's discharge status, "improved" or "unimproved," as recorded in the medical record, was used as the dependent variable. The following criteria were used to arrive at the judgment whether a patient was to be considered improved or unimproved: the clinical appraisals of the treating physician, senior resident psychiatrist, senior consultants and psychiatrist-in-chief of the clinic; also, the disposition of the patient at the time of his discharge, the patient's increased participation in the clinic activity programs, and changes in Behavior Chart(5) markings which were kept by the nursing staff.

In the years subsequent to the above studies, 5-year follow-up data have been obtained on 155 of the 209 patients who were the subjects in the original studies. This information was obtained by letters, hospital files and community practitioner contacts and was carefully cross-checked for accuracy. The following table presents the 5-year follow-up of psychiatric hospitalization of the original patients. These data support

¹ Dept. of Psychiatry, Johns Hopkins Medical School.

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TABLE 1

Comparison of Patients Rated "Improved" and "Unimproved" at Discharge, in Respect to Subsequent Admission to Psychiatric Hospitals

	DISCHARGE STATUS			
	IMPROVED N-181		UNIMPROVED N-74	
	NO.	%	NO.	%
No further hospitalization	49	60%	11	15%
Further hospital admissions	32	40%	63	85%

$\chi^2 = 32.0$; $P < .001$.

the validity of the success criteria employed

in the original "A-B Therapist" studies and buttress the clinical significance which can be attached to the research.

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SITUS INVERSUS TOTALIS: A SURVEY OF LATERALITY AND SOME OBSERVATIONS ON THE FREQUENCY OF MENTAL DISORDER¹

HENRY C. EVERETT, M.D.²

Inasmuch as the major body viscera are reversed in situs inversus totalis, the question arises as to whether handedness might also tend to be reversed, *i.e.*, whether left-handedness might be more frequent.

The records of adult patients admitted to the Johns Hopkins Hospital over a 10-year period (1952-1961) revealed 10 cases of complete situs inversus, with ages ranging from 29 to 68 at the time of this study. The handedness of 6 of these cases was determined by personal inquiry or by hospital records, and all 6 were found to be right-handed. Handedness was not determined in the remaining 4 cases, of whom 2 were untraceable and 2 had died.

An incidental finding in reviewing the records of the 10 patients was the high frequency of mental disorder. Five of them had histories in their charts of incapacitating psychiatric disturbances (*viz.*: a man with severe hypochondriasis, for whom psychiatric hospitalization was considered; 2 cases with histories of psychotic episodes; and, finally, 2 cases with mental retardation, of whom one was an alcoholic, while the other complained of hearing voices).

Two more patients had notations suggesting milder psychopathology; *viz.*, nervousness and excitability. (One of these 2 women was described as "hyperkinetic" and was on sedatives.)

The present sample of 6 cases in which laterality could be determined is rather small for statistical purposes, but the fact that all turned out to be right-handed casts strong doubts upon the hypothesis that situs inversus totalis might predispose to left-handedness.

Situs inversus totalis is part of Kartagener's triad, which also includes sinus and bronchial abnormalities. Finkelstein(1) reported a case of mental deficiency and schizophrenia in a 23-year-old woman with the triad. He has urged that others report such case material in the hope that a genetically significant discovery regarding mental illness may be made. Karani(2) reported a "low mental grade" in two sisters with the triad. The records of 5 of the 10 patients in the present study attest to severe psychiatric disorder, while those of 2 more suggest some degree of disturbance.

The genetics of situs inversus totalis is not yet fully understood. It has been thought by some(3) to be a rare Mendelian recessive. Gorham and Merselis(4), performing a family study on a patient (with

¹ This study was undertaken during psychiatric residency at the Johns Hopkins Hospital, Baltimore, Md.

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the syndrome) at Johns Hopkins Hospital, found the triad in the patient's sister but not in other generations. They comment that in other such studies the triad has been found to be shared only among siblings. In conclusion, they express the suspicion that the syndrome is a product of intrauterine environment, rather than of heredity.

SUMMARY AND CONCLUSIONS

The findings of this study did not support the hypothesis that situs inversus might predispose to left-handedness. However,

the incidental finding of a high frequency of mental disorders in the histories of the patients studied adds evidence to that from previous authors that situs inversus totalis may predispose to such disorders.

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THE INFLUENCE OF TWO SELECTED TRANQUILIZERS ON DRIVING SKILLS

WARREN J. HUFFMAN, Ed.D., AURELIO E. FLORIO, Ed.D.,
JOBE L. PAYNE, M.S., AND FLOYD E. BOYS, M.D.¹

The increasing use of tranquilizers and other drugs is a matter of concern to those connected with traffic safety programs. Do these drugs impair driving skills, reduce alertness or render the individual less likely to conform with traffic rules? Definitive answers to these and related questions are lacking.

It seems unlikely that "blanket" answers can be found. The term "tranquilizer" embraces a host of different drugs, with different chemical compositions and different actions on the human nervous system. It seems that each new agent which comes into popular use requires a critical evaluation of its effect upon driving, in addition to the more usual pharmacologic investigation which provides background information for the physician.

The present study was designed to test the behavioral effects of normal or double the normal dosage of a relatively new tranquilizing drug on reaction time, visual acuity, and hand steadiness.

The New Drug. Hydroxyphenamate (Listica)² was compared with both a placebo

and meprobamate. Meprobamate was selected for comparison purposes because of its widespread use and because its actions and clinical effects are well documented. The three materials were provided in tablets of identical appearance. One contained 200 mg. of hydroxyphenamate, the second 400 mg. of meprobamate, and the third was the placebo tablet.

The Subjects. Twenty-five healthy young adults, 15 males (mean age 22.5 years) and 10 females (mean age 20.5 years), were selected from student volunteers. There was no unusual medical history among them; physical development was within normal limits for their ages; vision (with corrective glasses when worn) was judged normal; each subject had a current operator's license for a motor vehicle.

METHOD

The study was conducted in two phases. First, the subjects were tested after normal dosages of the two drugs. After about a month they were retested at double the original dosage. To minimize the effect of learning, all subjects were familiarized with the test procedures before the actual experiment. The tablets were given according to a "double-blind counterbalanced design" so that each subject served as his

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² The materials for this study were provided by the Armour Pharmaceutical Company, Kankakee, Ill.

own control. The tablets were administered one hour before testing, and the subjects sat quietly in the interval. At each session, testing was completed in less than one hour, *i.e.*, within 2 hours of drug administration. Radioactive tracer studies with hydroxyphenamate- H^3 in humans showed maximum blood levels of the drug to be present in the 1-2 hour time period.

For each subject, 16 different measurements were recorded on 6 occasions; after placebo (twice), after hydroxyphenamate 200 mg., after hydroxyphenamate 400 mg., after meprobamate 400 mg., and after meprobamate 800 mg. The variables measured were as follows: 1. Reaction time; 2. Hand steadiness; 3. Far visual acuity, both eyes; 4. Far acuity, right eye; 5. Far acuity, left eye; 6. Far stereo (depth perception); 7. Color perception; 8. Far vertical deviation; 9. Far lateral deviation; 10. Near visual acuity, both eyes; 11. Near acuity, right eye; 12. Near acuity, left eye; 13. Near lateral deviation; 14. Reaction time distance; 15. Braking distance; and 16. Total stopping distance. The last 3 variables were measured in an automobile using a brake reaction detonator.

RESULTS

Using the *t* test of significance, 5 significant differences (of 96 comparisons) were found. In the first phase (normal dosage) far visual acuity, right eye was improved after hydroxyphenamate as compared with placebo ($t=2.21$). Visual acuity, left eye was improved after hydroxyphenamate as compared with meprobamate ($t=3.03$).

In the second phase (double dosage) reaction time was slowed after meprobamate as compared with placebo ($t=2.38$); far acuity, both eyes was diminished after hydroxyphenamate as compared with a placebo ($t=2.15$); near acuity, both eyes was diminished after meprobamate as compared with placebo ($t=2.20$).

CONCLUSION

Since this was a multivariable study and some statistically significant differences would be expected by chance, it was concluded that under the conditions of this experiment hydroxyphenamate had no significant effect on the performance of the subjects, neither at the normal nor double the normal dosage.

NARCOTHERAPY WITH METHOHEXITAL SODIUM

WALTER W. WINSLOW, M.D.¹

Narcotherapy, a technique employed by Horsley(1) in the middle 1930's, is a procedure in which a patient is interviewed while under the sedative effect of an intravenous barbiturate. This technique has enjoyed intermittent popularity, particularly during World War II, and at present is most commonly known as the amytal or pentothal interview. The purpose of this paper is not to argue the merits of this interviewing technique(2), but to report my experience with a relatively new short-acting barbiturate, methohexital sodium.²

Methohexital sodium is an ultrashort-acting barbiturate for intravenous use which has been generally accepted in the field of anesthesia as a safe and useful drug(3). It

is approximately three times as potent as thiopental sodium (Pentothal), by weight, is metabolized, primarily by the liver, 50% faster than thiopental. The technique, indications and contraindications are very similar to those encountered with amobarbital (Amytal) and thiopental sodium, and the same general precautions should be observed as in the more classical amytal interview. Adequate equipment and medication to meet anesthetic emergencies should be immediately available.

With the patient in the recumbent position a syringe containing 20-30 cc. of 1% methohexital is used to inject the solution slowly into the antecubital vein. The rate of injection is approximately 1 cc. per 5 seconds, with the average person requiring about 5-8 cc. (50 mg.-80 mg.) to reach the

¹ VA Hospital, Cincinnati, O.

² Brevital Sodium, Lilly.

desired level of consciousness. The optimal level of consciousness is determined similarly as with amytal sodium, the development of slurred speech, and the observation of nystagmus. The needle is left in the vein and the remainder of the 20-30 cc. is injected in sufficient quantities to maintain the desired level of consciousness, the average being approximately 1 cc. (10 mg.) every 3-4 minutes. Due to the rapid recovery rate it is relatively easy to titrate the amount of the drug required to maintain the exact level. If too much of the drug is given and the patient becomes non-communicative it is necessary to wait a very few minutes before resuming the interview, whereas, if an overdose of amytal or pentothal sodium is given the patient will fall into a deep sleep and the interview has to be terminated. A modification of this technique with methohexital sodium has recently been described by Dorfman(4).

When the interview is terminated and the injection discontinued, the patient will return to almost full consciousness in from 15 to 20 minutes. In my experience with 25 patients, all were able to talk without slurred speech, and walk unassisted without ataxia, in 20 minutes or less. Only a mild feeling of drowsiness remained longer than 20 minutes, but even this did not interfere appreciably with psychomotor function. Post-interview symptoms such as prolonged

drowsiness, confusion, nausea or vomiting were not encountered.

From this preliminary study the value of methohexital sodium over either amobarbital sodium or thiopental sodium, used in the manner described above, appears to be as follows: 1) the relative ease by which minute to minute control of the level of consciousness can be accomplished; 2) the rapid rate of recovery from the drug which makes it of particular value as an outpatient procedure; 3) the apparent safety of the drug as reported by those working in the field of general anesthesia; and 4) the reduced incidence of unpleasant side effects, particularly in the post-interviewing state. In all cases the verbal productions of the patient were entirely comparable with what might be obtained with either amobarbital or thiopental sodium used for a similar purpose.

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DRUG-INDUCED EEG ABNORMALITIES AS PREDICTORS OF CLINICAL RESPONSE TO THIOPROPAZATE AND HALOPERIDOL

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Since the hypothesis was first proposed by Wikler, drugs increasing synchronization of the EEG have been associated with

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This study was a corollary to one of a continuing series in the VA Cooperative Studies of Chemotherapy in Psychiatry.

sedation or tranquilization, drugs with a desynchronizing effect being associated with opposite behavioral changes(1). Recently, a consensus of electroencephalographers and clinicians was that in the absence of EEG change there was no behavioral change in patients treated with psychotherapeutic drugs(2). Two previous studies bearing directly on the problem have led to conflicting opinions(3, 4).

During a controlled comparative study of

thiopropazate and haloperidol, EEGs were obtained on 40 patients before treatment and six weeks later. These tracings were obtained simultaneously with clinical evaluations using an objective rating scale (Brief Psychiatric Rating Scale) based on a clinical interview of the patient(5). This scale yields a total pathology score which indicates the present severity of the patient's illness, changes in which may be used to evaluate effects of treatment. EEGs were obtained under comparable technical conditions, being read independently by two readers, who were not aware of the sequence of tracing in each pair. Differences in readings were arbitrated by a third reader.

Twelve patients showed definite changes from an initially normal tracing to varying degrees of abnormality. Fourteen patients had essentially normal tracings on both occasions. The remainder of the sample had either equivocal or definitely abnormal initial tracings or equivocal changes from initially normal tracings. All drug-induced abnormalities consisted of mild slowing of the rhythm, usually in the 4-7 sec. range. This slowing was sometimes generalized, but most often limited to frontal or anterior temporal leads. Frequently it was paroxysmal. The number of patients with abnormalities was equally divided between the two drugs. In general, they resembled those changes previously reported during chronic administration of phenothiazine derivatives or haloperidol(4, 6).

Mean change scores from the Brief Psychiatric Rating Scale were examined both for the group which had persistently normal tracings and those showing drug-induced synchronization. The mean reduction of total pathology in the former group was 23.1; for the latter, reduction was 19.0.

Differences between these scores were not significant, though the improvement produced by both drugs over pre-treatment scores was.

The relationship of dose to EEG change was also examined. The main daily dose of 10 patients on thiopropazate with normal tracings was 64 mg. per day; among 6 with abnormalities, 80 mg. per day; for haloperidol, doses were 6 mg. and 8 mg. respectively. It is probable that high doses of both drugs are more likely to evoke EEG synchronization, but not likely that the differences in this sample were of consequence.

No relationship between EEG abnormalities from tranquilizing drugs and clinical response of individual patients could be demonstrated in the present study. Obviously, EEG changes may occur subcortically which are missed in scalp electrodes. Possibly computer analysis of EEG rhythms might detect more subtle relationships. For practical purposes, drug-induced changes in the usual clinical EEG cannot be considered as more predictive than their absence of a favorable response to drug therapy.

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PRELIMINARY INVESTIGATION OF PIPERACETAZINE

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.¹

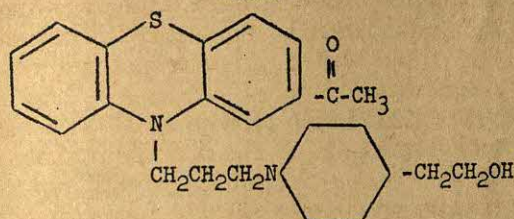
Piperacetazine (Quide)² is a new phenothiazine derivative, with the structural formula shown in Fig. 1.

¹ Fairfield State Hospital, Newtown, Conn.

² Generous supplies of Quide were furnished by Pitman-Moore Co., Indianapolis, Ind.

The manufacturer indicates that, in comparison with chlorpromazine, various biological tests revealed that piperacetazine is 50 times more potent as an antiemetic, 25 times as a tranquilizer in dogs, 8 times in lowering avoidance behavior, and 2.5 times

FIGURE 1



in reducing spontaneous activity.

The drug was administered to a series of 50 newly admitted female schizophrenic patients. The diagnostic sub-groupings and duration of present illness are indicated in the tabular summaries. Age distribution was as follows: 20 or under—5; 21 to 30—8; 31 to 40—19; 41 to 50—17; and 51 to 60—1. Dosage was usually initiated with 10 mg. t.i.d. and increased up to 30 mg. t.i.d. Medication was maintained from a minimum of 3 weeks to over 20 weeks.

Therapeutic results are summarized in Table 1. Group A exhibited good or excellent improvement; and Group B, mild or no improvement. The over-all picture revealed 42% with good or excellent improvement, and 58% with insignificant improvement.

TABLE 1
Correlation of Results with Schizophrenic Sub-Grouping

SUB-GROUP	A LEVEL OF IMPROVEMENT	B LEVEL OF IMPROVEMENT	%A
Acute undifferentiated (16) or schizo-affective (2)	12	6	67%
Paranoid (14)	5	9	36%
Chronic undifferentiated (11)	3	8	27%
Simple (6) or catatonic (1)	1	6	14%
Totals	21	29	42%

Correlation of results with 1) duration of present illness (Table 2) and 2) diagnostic sub-grouping reveals the significant influence of these factors.

Thus, there was an A level of improvement in 75% of patients whose present illness was not more than 1 year in duration,

TABLE 2
Correlation of Results with Duration of Present Illness

	A LEVEL OF IMPROVEMENT	B LEVEL OF IMPROVEMENT	%A
1 year or under	18	6	75%
Over 1 year	3	23	12%

as compared with 12% in those whose illness was longer than 1 year. Those with an acute psychosis exhibited an A level of improvement in 67%, with sharp and progressive decline in this rate in the paranoid, chronic undifferentiated and simple sub-groupings, respectively. Statistical correlation with type of symptomatology cannot be recorded so readily. However, as in a previous study of proketazone,³ it was noted clinically that favorable results were associated with acute type of onset, vigorous emotional reaction, and acute hallucinations or delusions, frequently accompanied by apprehension or panic reaction. Least satisfactory results were observed in patients who had an insidious type of onset, autistic reaction, lack of emotional reactivity, evidences of general personality disintegration and inadequate functioning, and vague, poorly-crystallized thought processes. It is again evident, therefore, that satisfactory results were obtained in patients with innately favorable prognostic features. In such instances, the drug appeared to hasten improvement or remission.

Significant complications were not observed. Side effects were mild and relatively infrequent: 8 patients exhibited mild somnolence, which tended to disappear; 1, slight dizziness; and 1, very mild akathisia at a level of 90 mg. daily. Parkinsonism was not observed within the dosage level indicated. Alkaline phosphatase and transaminase levels were normal.

It may be concluded, therefore, that piperacetazine is an effective agent in appropriate, selected cases of schizophrenia. Side effects were minimal.

³ Oltman, J. E., and Friedman, S.: *Am. J. Psychiat.*, 117:745, 1961.

CASE REPORTS

SEVERE ORAL MONILIASIS COMPLICATING CHLORPROMAZINE THERAPY

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The voluminous literature reporting the side effects and complications of phenothiazine derivatives has only one such report regarding fungus infections as possible complications(1). In this report, 17 patients receiving large amounts of phenothiazine medication were found to have a brown hairy tongue which disappeared upon discontinuance of therapy. In this group there were none who showed a severe clinical infection as did the following patient.

A 31-year-old married man was admitted to North Carolina Memorial Hospital on 7/26/62, because of a 7-day history of restlessness, agitation, excessive religiosity, and delusions concerning communications with God. Abnormalities found on mental status examination included evasiveness, suspiciousness, auditory and visual hallucinations, ideas of reference, and delusions regarding guilt. He was well oriented in all spheres, and memory was intact; abstract thinking was impaired. On 7/26/62, he was placed on trifluoperazine (Stelazine), 5 mg. b.i.d. with Cogentin 1 mg. b.i.d., but his medication was altered to chlorpromazine (Thorazine) 800 mg. daily when trifluoperazine seemed to increase his restlessness. In addition, he received Cogentin 1 mg. b.i.d., which was increased to 2 mg. b.i.d. when he complained of blurred vision. Severe dryness of the mouth was noted from the second day of therapy. On 8/8/62, the patient was reported to have complained of a mild sore throat the night before, and examination revealed a very reddened pharynx covered with small (1-2 mm. in diameter) white spots in the posterior pharynx; his tongue was covered with a heavy brown and white coat. White blood count at this time was 8750 with a normal differential, temperature was 99°. Dermatologic consultation confirmed these findings, and the following day a KOH preparation was markedly positive for yeast filaments. It was the impression of the dermatologist that the patient

was suffering from a severe pharyngitis and glossitis due to candida albicans. He was started on Mycostatin suspension, 100,000 units q.i.d. on 8/10/62, and in a few days showed a marked decrease in the coating on his tongue and pharynx with a markedly reddened mucosa showing underneath. Chlorpromazine was continued in decreased dosage since the patient showed a good clinical response. On 8/18/62, his mouth was normal in appearance.

This case of severe oral moniliasis accompanying the use of chlorpromazine is the first reported in the literature. This man is not a diabetic, nor had he had any broad spectrum antibiotics recently. It may be that the severe dryness of mouth from which this patient suffered as a side effect of his chlorpromazine medication, may have sufficiently altered the normal flora and Ph of the mouth, so as to make a monilia infection more possible. A similar response to change in Ph is believed to be contributory to the development of vaginal moniliasis in pregnant women(2). The brown hairy tongue is believed to be associated with the presence of candida albicans(3). This is the only known reported case that has progressed to this severity.

SUMMARY

A case of severe oral moniliasis as a complication of chlorpromazine therapy is reported. Therapeutic response to Mycostatin suspension was good. It was not necessary to discontinue chlorpromazine therapy.

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THERAPEUTIC USE OF THIORIDAZINE IN PREMATURE EJACULATION

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Since I first reported a case of inhibition of ejaculation as a side effect of thioridazine (Mellaril) (4) five other similar cases have been published by Freyhan, Green and Taubel. In July 1962 I came across another case which brought to my attention that thioridazine might have some value in delaying premature ejaculation, a very distressing symptom in many neurotic and anxious patients. Therefore, I tried Mellaril in small doses in a neurotic patient with premature ejaculation as one of the main symptoms, and achieved very encouraging results.

A 32-year-old male patient was referred to me because of an acute anxiety attack. He had been subject to these attacks for 15 years. He was very conscious of his half Chinese and half Canadian heritage with hostile identification with his Canadian mother. He underwent various homosexual experiences and had paranoid tendencies. I prescribed for him thioridazine 100 mgm. q.i.d. which made him relaxed in a week's time. At the next visit he asked me if this drug affected his sexual life. On further inquiry he related that at times he had experienced complete inhibition of ejaculation and at other times simply delayed ejaculation. After another week he objected to the use of this drug because of its interference with his sexual life. He was therefore changed over to prochlorperazine 10 mgm. q.i.d. which brought his sexual life to the usual pattern. However, at this time he went into a homosexual panic and decided that he would not go for any more drugs or psychiatric treatment.

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Having noticed the above property of thioridazine, it was used successfully in the treatment of the following case of premature ejaculation.

A 51-year-old white male executive was referred to me because of his feeling of inferiority, inadequacy, mild depression, anxiety and premature ejaculation, and most of his anxiety was centred around his consequent inability to satisfy his wife. He was convinced that whenever he could satisfy his wife sexually, he could deal with his family, business and employees adequately. He was placed on thioridazine 25 mgm. t.i.d. imipramine and (Tofranil) 25 mgm. t.i.d. to delay ejaculation and to get him over the depression. When I saw him 2 weeks later he admitted that ejaculation was delayed and he was more confident in sexual as well as other areas. His depression had also been masked at this time.

CONCLUSION

Firstly, thioridazine's property of delaying ejaculation may prove of tremendous value in treatment of anxious and sexually insecure patients who gather many more problems consequent to the symptom of premature ejaculation. Secondly, I would like to emphasize the need for further research in this area.

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TREATMENT OF ENCOPRESIS WITH IMIPRAMINE

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Fecal incontinence, with soiling, has achieved little mention in the standard pediatric or psychiatric literature, even though it is by no means a rare event in

childhood (4). While the symptom frequently co-exists with enuresis, this is not invariably so. The etiology and treatment of encopresis remain a difficult and vexing problem, complicated by the sequelae of additional problems arising from the "dis-

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tasteful" major complaint. One invariably finds a profound emotional disturbance, not only in the child, but in the home.

Recently there have been encouraging reports of imipramine (Tofranil) in enuresis providing a simple and effective method of controlling this commonplace problem (1-3). The analogous psychological factors of enuresis encopresis suggested a trial of imipramine with encopresis only. The following case report shows the value of this drug.

Because of persistent encopresis, accompanied by increasing masturbation, temper tantrums, and indistinct speech a 9-year-old female was referred for psychotherapy. At the time of the initial consultation the child was in the third grade and doing well in academic studies, but had poor relationships with the other children who avoided her because of the soiling. She was easily excited but was not an isolate. The mother steadfastly refused to recognize psychological etiology for this condition, even though she admitted having resented this child from the time of conception. There was a good deal of crying and spitting during infancy, but no sleep disturbance. In general, she appeared all right until the birth of her brother when she was 14 months of age, at which time she showed marked jealousy. Temper tantrums began at 2, along with attempts at toilet training. She was very stubborn and was kept in diapers until age 3. Enuresis was never a problem and soiling occurred infrequently until age 5 after which it progressively became worse.

The patient was found to be an attractive, well-developed, shy child who tended to be somewhat overactive in the playroom. She was

above average intellectually, but occasionally her thinking became chaotic and she barely managed to keep in control. Neurological examination was negative. EEG was within normal limits.

A variety of treatments failed to ameliorate the encopresis, although ataractics of various types and a supportive relationship with the therapist did seem to improve her general adjustment, and she seemed happier and calmer. The patient was then begun on imipramine 25 mg. daily, and the following day her encopresis ceased. The compound was administered daily for more than one month without any side effects. Encopresis returned when placebos were substituted. The relief of the encopresis significantly altered the course of psychotherapy. The patient's mother became warmer to her daughter, and had a more benevolent attitude towards psychotherapy. The child's milieu improved. There was no longer the need for the futile coercive measures employed in the past. The patient was visibly calmer and happier, and had better control in frustrating situations. She was continued on imipramine 25 mg. daily for over 2 months along with weekly supportive psychotherapy. There has been complete alleviation of the encopresis.

It is felt that on the basis of this report further clinical trials are indicated.

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LOEFFLER'S SYNDROME OCCURRING DURING IMIPRAMINE THERAPY

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Loeffler(1) described the syndrome characterized by pulmonary infiltration and eosinophilia. This was interpreted as an

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allergic reaction by sensitized lung tissue to various allergens, intestinal parasites being identified in a number of cases. Later publications(2) have described Loeffler's syndrome as occurring as an allergic response to various drugs, such as sulfa drugs and penicillin. Joynt(3) summarized the previous literature on mild eosinophilia oc-

curing during imipramine therapy; he then described an extreme case.

The following case shows an extreme eosinophilia with pulmonary infiltration occurring during imipramine therapy; and it is interpreted that this is a case of Loeffler's syndrome, occurring as an allergic response to imipramine.

A white, female patient (L.J.), aged 43 years, was admitted to Broughton Hospital on March 30, 1962. There was a recent history of depression, agitation, emotional lability, insomnia and anorexia. There appeared to be a degree of reactivity and she had marked difficulties in her interpersonal relationships with her husband. There was a history of a previous admission to this hospital with the diagnosis depressive reaction. The official diagnosis returned on her present admission was manic-depressive reaction, depressed type. She was admitted to the Depressive Research Unit where a double blind study was being undertaken with imipramine and desmethylinipramine.

Imipramine therapy was initiated on April 2, 1962, the dosage being 50 mg. q.i.d. On April 9, the dosage was increased to 100 mg. t.i.d. On April 13, patient complained clinically of respiratory symptoms, namely dyspnea on exertion and mechanical respiratory difficulties. Physical examination revealed broncho-vesicular breath sounds with rales and rhonchi scattered throughout the chest. Clinical findings appeared to be those of a mild case of bronchial asthma but there was no previous

history of this or any other allergy. During the next week her clinical findings remained static but there was progressive improvement during the following week until no positive findings were elicited. There was no pyrexia during her illness. Imipramine therapy was discontinued on April 15, 1962. The following is a record of her laboratory findings:

X-ray of chest: 4/2/62: (Routine admission) —Normal.

4/13/62: There are bilateral abnormal lung changes manifest by minimal peribronchial infiltration, consistent with minimal pneumonitis. Conclusion: Minimal peribronchial changes consistent with minimal pneumonitis.

4/27/62: The final PA film of the chest compared to the study of 4/13/62 shows complete clearing of the peribronchial infiltration at that time.

Blood picture:

4/ 2/62:	W.B.C. 14,600.	Eosinophiles 1.
4/13/62:	W.B.C. 31,550.	Eosinophiles 28.
4/16/62:	W.B.C. 46,200.	Eosinophiles 31.
4/17/62:	W.B.C. 41,000.	Eosinophiles 50.
4/19/62:	W.B.C. 36,500.	Eosinophiles 79.
4/26/62:	W.B.C. 13,050.	Eosinophiles 35.
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ENURESIS AND IMIPRAMINE

NICHOLAS DESTOUNIS, M.D.¹

The salutary effects of imipramine (Tofranil) on depression and allied states are well known. Also, recent communications(1-4) suggest its usefulness in controlling enuresis. The following case is in point.

G. P., a 15-year-old boy, was referred for psychotherapy with a history of enuresis accompanied by depression and suicidal preoccupation. On the initial interview, the patient appeared depressed and expressed feelings of hopelessness and futility. Furthermore, he was deeply concerned about his enuresis, and was thinking of suicide. He was put on 50 mg. imipramine at bed time. After the second

night the bed wetting ceased, and the clinical picture of depression disappeared within a week. The psychotherapy was supportive, and now after two months, he is free of the enuresis as well as of the other symptoms for which he was referred. Academically, he has become a better student, thinks constructively, and is looking forward to the future with optimism.

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HISTORICAL NOTES

WILLIAM OSLER, S. WEIR MITCHELL, AND THE ORIGIN OF "THE REST CURE"

JEROME M. SCHNECK, M.D.¹

Descriptions of original discoveries, concepts, and techniques have always been part of the recorded history of medicine. The Rest Cure has its place in the history of psychiatry, but few people know that an account is on hand about the alleged first patient to whom it was applied. It is to be found in a memorandum written by William Osler on December 9, 1887 concerning his conversation with S. Weir Mitchell.

Mitchell was a versatile man, perhaps the foremost neurologist of his time, active in treating psychiatric patients, contributor to both specialties and to toxicology, author of poems, short stories, novels and biography. His writings possess evidence of his clinical experience and psychiatric insights(1). The Rest Cure apparently was not a rigid procedure; it was modified in time and depending upon patients' needs involved, in addition to several weeks of rest, proper food, isolation, separation from relatives and surroundings where the illness developed, physical measures including exercise, massage, and electrotherapy, and firm kindness by well-trained personnel. Alcohol might be denied, or whiskey and champagne recommended. Evaluations of its success have considered as especially important the isolation from relatives, the special attention by kindly but firm hands, and particularly the personality of the doctor himself and, as is true of all treatment contacts, the implications of this doctor-patient relationship for the recovery of the patient.

A biographer of Mitchell tells us of at least three different stories of the origin of

The Rest Cure(2). In 1904 Mitchell ascribed it to his hospital experience during the Civil War. His friend W. W. Keen thought Mitchell came upon it when the "nervous ailments" of two patients improved on enforced bed rest due to fractured legs. Osler furnished Mitchell's description in one of their conversations. Earnest, the biographer, offers the reasonable opinion that these accounts need not be in conflict because the treatment was an evolution and not really a "discovery." As a specific clinical description of an alleged first patient, the Osler memorandum is of interest and should have its historical niche. Earnest uses as his reference, but without direct quotation, the biography of Osler by Cushing(3). This, however, contains only part of the memorandum. The complete memorandum is to be found in the Osler Library of McGill University in Montreal. It says:

I have just walked home with Weir Mitchell from the Biological Club at Wm. Sellers' and he told me on the way of his discovery, if one may so call it, of the rest treatment. About 12-14 years ago a Mrs. S. from Bangor, Maine, came to consult him at the advice of a mutual friend. She was a bright intelligent woman who had as a girl attended in Boston a school in which Agassiz and his wife were interested and had passed through the four years' curriculum in three years. She then had married and within as short a time as was possible had had four children with the result of a total breakdown, body and mind. Boston and New York physicians were tried for a year; then she went abroad, and in London and Paris saw the most eminent consultants and spent months at various spas. But in vain; she returned a confirmed invalid. When seen she was a woman of 5 ft. 8, emaciated, nervous, unable to digest any food unless she lay upon her back with the eyes shut, and full of whims and fancies. Standing at the foot of her bed, M. felt that every suggestion he had to make

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In obtaining wording of the complete memorandum, the author appreciates the assistance of Miss Cécile Desbarats, Secretary-Librarian at the Osler Library.

as to treatment had been forestalled. Every physician had urged her to take exercise, to keep on her feet, to get about, and she felt herself that this was the best. M. on the inspiration of the moment told her to remain in bed. She took food better but found that on attempting to get up she was so weak that she could scarcely stand from lack of exercise. M. says he felt that he had run up against a stone wall. About this time he had seen on several occasions a quack named Lyons, who professed to cure, by passes and rubbings, a confirmed ataxic in such a way that he could get about for an hour or more at a time. The idea occurred to him to substitute for exercise the movements of the muscles caused by rubbings and friction and after giving to a Miss H. (who subsequently went upon the stage) several lessons he instructed her to rub Mrs. S. for a certain time each day. The improvement began to be noticed and to the rubbing was added the electrical stimulation of the muscle also substituted for the active movement. The food was taken more freely, she gained in flesh and gradually recovered and was sent to her home in Bangor perfectly well. The

improvement persisted; she has since borne several more children and has been the soul of many enterprises in her native town. An incident, post-partum so to speak, was a letter from Mrs. S.'s mother, a wealthy New England woman, a speaker at temperance meetings, full of 'isms, etc. She wrote to Dr. M. to say that bodily comfort and ease, health and enjoyment might be dearly bought if at the price of eternal peace. For he had recommended her daughter to take champagne and to have a maid to assist her in her toilette. The former she considered not only unnecessary but hurtful, the latter quite superfluous, as any well-instructed New England husband was quite capable of helping his wife in her toilette. W. O.

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SANTE DE SANCTIS (1862-1935)

GEORGE MORA, M.D.¹

Exactly 100 years ago, Sante de Sanctis was born near Assisi in Italy. After graduating from the Medical School of Rome in 1886 with a thesis on aphasias, he entered general practice in a small town; but soon he dedicated himself entirely to psychiatry in the Psychiatric Clinic in Rome where he did extensive research on neuropathology. Following scientific travels in Paris and Zürich, he became interested in psychology. His first book *I Sogni* (1899—Germ. tr. 1901) was a study, supported by experimental research, of dreams and sleep in hysteria and hypnotism; he emphasized in it the importance of emotional factors in dreams and anticipated views concerning the transference of emotional charges(1). Freud himself paid tribute to de Sanctis in his *Interpretation of Dreams* although, on the whole, he did not consider the book too

original(2). In 1901, de Sanctis became "Privatdozent" of experimental psychology and, six years later in 1907, he was appointed Professor of Physiologic Psychology at the University of Rome, the first chair in this field in Italy. His contributions of this period concern: the definition of the role and aim of experimental psychology as distinct from biology and philosophy; the eclectic application of methods of research from psychological experiment to introspection and to behavioral observation; the elaboration of the doctrine of empirical parallelism between physical and psychological phenomena on the basis of the distinctions between nervous energy and psychic energy; the formulation of the "doctrine of the cycle" representing the biopsychological integrative process between external stimulus, inner elaboration, and feed-back mechanism; finally the study of human mimicry (*La Mimica del Pensiero*, 1904—Germ. tr.

¹ Medical Director, Astor Home for Children, Rhinebeck, N. Y.

1906), especially of the face and of the hand for the evaluation of emotions.

At the Fifth International Congress of Psychology, organized by him in 1905 in Rome, he presented his mental tests for the evaluation of retarded children, which were soon to be overshadowed by the tremendous success of Binet-Simon Intelligence Test. At the same Congress he presented his first important contribution to child psychiatry, namely, his first study on "dementia praecocissima," which he defined as a form of dementia praecox appearing before puberty—either slowly or suddenly—and developing with an acute or chronic course, with uncertain pathological findings and various prognoses. This syndrome was accepted by some and rejected by others, and its autonomy, as well as its nosologic classification, remains problematic(3). A few years later, during 1909-1913, he published (with S. Ottolenghi) a comprehensive treatise on legal psychiatry, *Trattato Pratico di Psicopatologia Forense*, which was widely accepted and followed in Italy. His continuous interest in children brought him also to take active part in the planning and functioning of special institutions and classes for abnormal children and to present his experience in this field in a volume, *Educazione dei Deficienti* in 1915. In the meantime, he continued his research on dreams and was the only foreigner asked to collaborate on this subject for Kaffka's *Handbuch der vergleichenden Psychologie* (1922). In 1924 he published a book on religious conversion, *La Conversione Religiosa*, *Studio Biopsicologico* which appeared in English three years later. The following year, 1925, de Sanctis published his extensive textbook on child psychiatry, *Neuropsychiatria Infantile* (later translated into Russian), a kind of encyclopedic survey of the whole field, which, however, "clung tenaciously to the old nosographic concepts . . . losing sight of personality"(4). In the meantime, he continued his studies on developmental psychology, some of which were also published in this country in the *Pedagogical Seminary and Journal of Genetic Psychology*. In these studies, especially insofar as personality de-

velopment is concerned, he was among the first in Italy to be influenced by Freud's theories, toward which he always maintained a sympathetic attitude(5). Finally, in 1929-30, he published his two volumes, *Psicologia Sperimentale*, a very broad and up-to-date—though not too critical—presentation of the whole field of psychology, from general psychology to educational, industrial and legal and criminal psychology.

De Sanctis, who already in 1920 had become Director of the Psychiatric Clinic in Rome, in 1929 became Professor of Neurology and Psychiatry at the University of Rome(6). Aside from other studies on different fields of psychiatry, in 1932 he published his autobiography, which later appeared in this country(7). He died in 1935 and his chair was successfully occupied by A. Cerletti, who—in collaboration with L. Bini—introduced electroshock in the treatment of psychoses. A modest and true researcher and indefatigable worker, quite intuitive though not too critical(8), and a pioneer in establishing institutions for retarded and abnormal children, Sante de Sanctis was—as Ziehen, Kraepelin, Wundt, Schilder—among the last minds to be able to combine into fruitful unity the manifold aspects of the behavioral sciences.

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COMMENTS

BENJAMIN RUSH ON THE IMPORTANCE OF PSYCHIATRY

This year marks an anniversary of importance to psychiatry—one hundred and fifty years ago Benjamin Rush published his book *Medical Inquiries and Observations upon the Diseases of the Mind*, the first book by an American attempting to deal with the problems of mental illness. Much has been said about Rush's pioneering efforts in reforms of mental hospital treatment and his influence in American psychiatric development, and a lot more of a less eulogistic nature has been said about the extremes of his medical treatment, the purging and bleeding which surprises the modern reader with its severity and which was so criticized by Rush's colleagues. Rush will perhaps always remain a controversial figure, but after a century and a half certain aspects of his contributions to psychiatry stand forth to explain why this man receives the title of father of American psychiatry. It is pertinent to celebrate this anniversary by giving Rush an opportunity to repeat some of his views on the importance of psychiatry.

Of greater significance than his archaic theories are his attempts to win physicians to a new perspective in their discipline, to cause them to include the human mind in their observations and their cures. This new emphasis can be seen in Rush's lectures to his medical students at the University of Pennsylvania. He devotes nearly half of the outline of his course on physiology to a discussion of the mind, its operations and its functions. He presents the following credo :

Man is said to be a compound of soul and body. However proper this language may be in religion, it is not so in medicine. He is, in the eye of a physician, a single and indivisible being, for so intimately united are his soul and body, that one cannot be moved, without

the other. The actions of the former upon the latter are numerous and important. They influence many of the functions of the body in health. They are the causes of many diseases ; and if properly directed, they may easily be made to afford many useful remedies.¹

Rush recognizes that physicians are apt to regard the study of the mind as too abstract or unorthodox to be of much practical use in medicine. He warns his students that,

some of these subjects will be new in lectures upon the institutes of medicine, particularly those which relate to morals, metaphysics, and theology. However thorny these questions may appear, we must approach and handle them ; for they are intimately connected with the history of the faculties, and operations of the human mind ; and these form an essential part of the animal economy.²

These new considerations will provide greater responsibilities for the physician, but they will also increase his understanding and skill :

[Knowledge of the mind] should be the *vade mecum* of every physician. It opens to him many new duties. It is calculated to teach him, that in feeling the pulse, inspecting the eyes and tongue, examining the state of the excretions, and afterwards prescribing according to their different conditions, he performs but half his duty in a sick room. To render his prescriptions successful, he should pry into the state of his patient's mind, and so regulate his conduct and conversation as to aid the operation of his physical remedies.¹

And :

Besides the advantages which a physician may derive from a knowledge of the faculties and operations of the mind in furnishing him with numerous and powerful articles of the *materia medica*, he will find it useful in predicting the issue of diseases in life or death.¹

Rush emphasizes a number of the faculties of the mind as playing an important

¹ Rush, Benjamin : Sixteen Introductory Lectures to Courses of Lectures upon the Institutes and Practice of Medicine. Philadelphia : Bradford & Innskeep, 1811.

² Rush, Benjamin : Selected Writings. Edited by Dagobert D. Runes. New York : Philosophical Library, 1947.

role in bodily function and behavior, but he stresses the importance of the emotions, or what were then called "the passions." They are instrumental in causing and curing bodily ills, but they are even more important in mental illness :

I have hitherto mentioned the influence of the passions in curing the diseases of the body only ; but their efficacy is much greater in curing the diseases of the mind, whether they occupy a part or the whole of its faculties. By means of anger and terror, an understanding and memory, that have been torpid for years, have suddenly been excited into healthy action. By opposing a new and fresh, to an exhausted, passion—by combining two passions against one—by giving a passion, that has operated in retrograde (*sic*) course, its natural direction—madness, from the influence of the passions upon the understanding and will, has often been cured, without the aid of any other remedy.

But the empire of a physician who is acquainted with the texture and functions of the human mind, may be extended beyond the diseases which are induced in it by derangement. It may be employed to compose and regulate the passions, when they act with excess or irregularity in the common affairs of life.¹

Rush is over-optimistic for the immediate future of this knowledge when he says,

In the science of government a physician will find his mental knowledge of eminent advantage to him, should he be called to take a part in the public affairs of his country. From his knowledge of the debilitating effects of inactivity and confinement upon the understanding and passions, he will be an enemy to slavery and a friend of liberty ; and from his frequent opportunities of witnessing the destructive effects of the passions upon the human body, he will be the advocate of those governments only, which filter laws most completely from the passions of legislators, judges, and the people.¹

But at the same time he seems cognizant of some of the obstacles before the science of the mind :

I am aware, gentlemen, that the science which I am now recommending to you, is an unpopular one ; and that it is often treated as chimerical and uncertain. While it bore the name of metaphysics, and consisted only of words without ideas, of definitions of nonentities, and of controversies about the ubiquity and

other properties of spirit and space, it deserved no quarter from the rational part of mankind ; but the science, I am speaking of, is as real as any of the sciences that treat upon matter, and more certain and perfect than most of them. As a proof of this, I need only call your attention to the innumerable changes that have taken place in the theories of every branch of what is called physical science, and to the improvements which have taken place in each of them, within the last two thousand years. Very different is the state of phrenology, if I may be allowed to coin a word, to designate the science of the mind. Most of the leading opinions and observations of Locke, Condillac, Hartley, and Reid, may be found in the writings of Aristotle, and Plato ; and discoveries in this science are now as rare, as they are in anatomy. The reason [for] this certainty, and near approach to perfection, is obvious. The mind is the same now, that it was in the time of those illustrious Greek philosophers, and of course exhibits the same phenomena in all its operations to the moderns, that it did to them. It is, moreover, always present with us, and always subject to our observation. It requires no excursions from home, nor apparatus of instruments or agents, to develop its operations ; and hence there is nearly the same coincidence of opinion concerning them, that there is of the qualities of bodies, that act upon the senses.¹

We can well recognize that Rush is too sanguine in his belief that the ultimate nature of the mind had been understood, but we can admire his optimism in the importance of this new division of medicine. How much of his enthusiasm he imparted to the students, some 3,000, who studied under him has yet to be evaluated, but his book on the mind was well enough received, for it went through five editions in America over the next 23 years. Rush's book was widely known in Europe in those years also, for it was published in a German translation, and one finds it mentioned and quoted frequently in the European medical literature. To Benjamin Rush what he called phrenology and what we know as psychiatry today was of fundamental importance in the training of the physician, and he worked as a teacher and writer to gain a wider recognition of its possibilities.

Eric T. Carlson, M.D., and
Meribeth M. Simpson, B.A.

CORRESPONDENCE

IATROGENIC DISTURBANCE

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: A colleague who used to relate his cases to me became, at times, very upset because he could tell when his patients started to become psychotic. At first, I reassured him by saying that he was not to blame, until one day he asked me to see one of his patients. After that, I could reassure him no longer.

Miss R., a Jewish lower middle class woman in her early 30's, had gone into therapy with the hope that it would aid her in getting married. (Therapy has now become a sort of magic that helps us to achieve everything we desire.) Dr. X., in his attempts to cure her "inhibitions," tried to "get out her aggression," with the result that the domestic situation steadily worsened. So Dr. X. persuaded Miss R.'s sister, with whom she lived, to go into therapy with a colleague. Since he also "tried to get his patient's aggression out," the quarrelling now became violent. Dr. X. also tried to remove the patient's sexual inhibitions, so that she became promiscuous and lost all self-respect. Furthermore, he told her not to allow her boss to "exploit" her and she consequently lost the job she held for over 10 years which had stabilized her and given her social standing. She became aggressive, depressed, anxious and agitated and was finally hospitalized by her therapist, who was unable to cope with her. After 6 months, with the help of shock treatment and general care, she had calmed down somewhat and was discharged.

When I saw her, she had gained 20 pounds as a result of the insulin and her

mental and physical condition was such that it precluded any possibility of her getting married. She was neither willing nor able to work and was living on the meagre allowance her brother, who could ill afford it, gave her. I could give her no advice.

A woman, applying to me for a secretarial position, confided to me that her little daughter had developed a neurosis and was receiving psychiatric treatment. The attempts to get "her underlying jealousy out" were so upsetting for the mother, that she too had to undergo treatment and was now looking for a job in order to finance her treatment and that of her child. She could not understand why I, a psychiatrist, was not eager to engage her since she so ardently believed in psychiatry and was making such sacrifices in its behalf. I refrained from telling her that, if they both dispensed with treatment, and the mother devoted more time to the family, the child might feel less jealous and be happier.

Not every maladjustment is neurotic. And not every neurosis is caused by suppressed aggression or cured by an indiscriminate release of aggression. There are cases of very timid, inhibited patients who could be helped by expressing a moderate amount of aggression in a socially acceptable manner. But unlimited and indiscriminate expression of aggression and sexual impulses is harmful to the patient's self esteem and often has disastrous social and family consequences.

Melitta Schmideberg, M.D.,
27 W. 96th St.,
New York 25, N. Y.

MIND TAPPING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: I feel impelled to write you to express my objection to an article in the October Journal entitled "Mind Tapping: Psychiatric Subversion of Constitutional

Rights," by Dr. Thomas Szasz. Both in substance and in style, this article falls far below the standard to be expected in a professional journal.

The style is luridly sensational, from the first words of the title to the last para-

graph's attempted analogy of mental illness to witchcraft and of psychiatrists to "ecclesiastic witchhunters."

It would require an article almost as long as the original to itemize all the instances of unscientific thinking and writing exhibited. I shall merely categorize them:

Charges and startling assertions (example: "Psychiatrists have shown great alacrity in meting out life sentences . . .") unsupported by any evidence of research, empirical data or documentation of any kind.

The deliberate misuse of words, as when a judicial order of hospitalization is called "conviction" and "sentence," and the hospital stay is called "imprisonment."

Implications that the practices denounced are widespread if not universal, without any data on how prevalent they actually are.

Implications that these practices are generally or even unanimously endorsed by the courts and by legal scholars, without citing a single court decision so holding or

a single scholar.

The use of rhetorical questions to imply that their answers are self-evident, although a moment's thought would show that they are not.

The peculiar use of quotation marks, not to quote but to confess, covertly, that the words so marked are inaccurate.

The failure to present or evaluate the arguments pro and con, and the resort instead to mere invective and wholesale charges—which would raise a serious scandal if supported by evidence—that lawyers and judges, abetted by psychiatrists, deliberately indulge in actions that are unethical, illegal and a subversion of constitutional rights.

The question Dr. Szasz raises is a real one and deserves thoughtful discussion. But his article does not contribute to such a discussion.

Henry Weihofen,
Washington, D. C.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: In my article on "Mind Tapping" I asked: What sort of thing is compulsory pre-trial psychiatric examination? Professor Weihofen states that I did not give much of an answer. I imply, he says, that lawyers and judges, abetted by psychiatrists, "deliberately" deprive people of their constitutional rights. But this is precisely what I did *not* say. My article was an effort to describe a social and legal process, not a personal plot. The gist of my thesis was that though ostensibly for the benefit of the defendant, this procedure was actually to his detriment. My aim was not to attack individuals, but to argue that compulsory pre-trial examination is but another instance of

deprivation of civil liberties. It is a grave mistake to equate this criticism with the view that the critic believes that those who implement such medically-labeled procedures are badly intentioned. Indeed, I wrote that "I have no intention of impugning anyone's honesty. But honesty is not the issue. The issues are mental illness and the right to be tried."

Let us not forget that, to the liberal, what matters is not intentions, but power. For the fundamental threat to freedom is today what it has always been: the power to coerce. Psychiatric power, no matter how well intentioned, is no exception.

Thomas S. Szasz, M.D.,
Syracuse, N. Y.

PSYCHIATRIC RESEARCH

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Dr. Max Levin, in his article in the November, 1962 issue of the *Am. J. Psychiat.* asserts the superiority of investigation based on clinical case study over those which rely upon measurement and statisti-

cal analysis in behavioral studies.

To buttress his thesis Dr. Levin cites a statistical study of the responses of Negro children to white and brown dolls. Without identifying the study or its authors, he castigates this study as only proving the obvious and views this type of research as

"a growing scandal." Unfortunately for Dr. Levin, this particular example rather than supporting his thesis actually refutes it dramatically. It is clear from his summary that he is referring to the study done in the 1940's by Kenneth B. Clark and Mamie P. Clark on "Racial Identification and Preference in Negro Children" reported in the volume edited by Maccoby, *et al.*, *Reading in Social Psychology* (New York: Henry Holt, 1958). The data of this study comprised a significant portion of the psychological evidence proving that school desegregation is harmful to Negro children cited by the U. S. Supreme Court in its historic decision in school desegregation in 1954. So this "confirmation of the obvious," as Dr. Levin puts it, actually represents one of the most significant and definitive pieces of behavioral research done in recent years. It is clear that the data presented by the Clarks would not have had the persuasive influence it has had without the "numerous

statistical tables" that Dr. Levin deplors.

Dr. Levin also moralistically reproaches the Clarks for their "brutality" in "subjecting Negro children of tender years to mental torture." The mental torture to the child of self identification as Negro stems clearly from the youngster's awareness of his disadvantaged status—a status conferred upon him by his environment. It is a strange morality which decries the collection of convincing evidence of the origin of these children's pain for the successful purpose of relieving it, and fails to record the social origin of the pain as the real "brutality." An equivalent reasoning might object to complete medical examination of a child with a painful belly for the purpose of clarifying diagnosis and determining proper treatment on the basis that we are increasing the child's pain.

Stella Chess, M.D.,
New York Medical College.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Dr. Chess says that the illustration I selected, namely the study by Drs. Kenneth and Mamie Clark, fails to support my thesis, and, indeed, "refutes it dramatically." If this were true, I would be guilty only of having chosen the wrong illustration. But I do not agree that the illustration refutes my thesis. The fact that the Supreme Court cited the Clark study in its 1954 decision is irrelevant. I do not have the text of the decision, and do not know in what precise connection the Court cited the study. But will anyone serious argue that not until the Clark study did we know and appreciate the harmful impact of segregation and prejudice on the Negro child? This would be absurd. Thoughtful people understood the evils of prejudice long before the Drs. Clark were born.

The object of my article was not to "castigate" statistical studies, but to criticize the growing impression that such studies alone are worthy of investigation. This growing impression appears to be symptomatic of an age when people are beginning to think that a man and woman

contemplating marriage might well submit their doubts to an electronic computer.

To the charge that I reproach the Clarks for their brutality I plead not guilty. They are obviously decent people of high character, and I was careful to speak of the *unconscious* brutality of their investigation. You may reproach a man for what he does consciously, not unconsciously. And again I plead not guilty to the charge of having overlooked the social origin of the disadvantages that life holds for the Negro child. I am as much aware as anyone of the "real brutality" that confronts the Negro child, and I know that the Drs. Clark are not its authors. But this has no bearing on the (unconscious) brutality of their investigation. To anyone who disputes this, we need put only one question: If *you* were a Negro parent, would you like your child to take part in a study in which there is a possibility that he might break down and cry, and run from the room "convulsed in tears"? The analogy of the child with pain in the belly need not be considered, for it is, I submit, not a valid one.

Max Levin, M.D.,
New York, N. Y.

MATURITY OF PERSONALITY

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : The paper by Dr. John C. Whitehorn, "A Working Concept of Maturity of Personality," which appeared in the September, 1962 issue of the Journal, impressed me as an excellent concept of the term "maturity."

I am taking the liberty of calling your attention to the fact that a similar concept has been developed by me. At the same time I want to emphasize that Dr. Whitehorn could not have had any knowledge of my papers for the following reason :

At the annual meeting of the APA in Chicago, in 1957, I delivered a paper entitled, "Critique on the Application of Hypothesis and Theory of Dynamics." A summary and the axioms were published in "The Scientific Papers," the paper itself,

however, was not published by the Journal.

Some time later I wrote a paper, "Outline of a Theory of Neurosis" which was not accepted for publication by any of the leading psychiatric journals in America. I therefore translated the paper into German. This paper was subsequently published in Germany in 1959. (Z. Psychother. Med. Psychol., 66, Mar. 1959. The editor of this Journal is Ernst Kretschmer.)

I should like to mention also that part of my theory was developed in my paper, "Instinct of Self-Preservation and Neurosis," Psychiat. Quart., 252, 1954. To some extent this is true also of two papers which appeared in the Am. J. Psychother., 366, 1948, and 234, 1949.

Siegfried Fischer, M.D.,
San Francisco, Calif.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I welcome Dr. Fischer's letter, calling attention to his efforts to take systematic account of the important human needs to feel secure and worthwhile as supports to good social functioning and for the avoidance of neurotic reaction.

Dr. Fischer, however, constructs on this basis a more ambitious, systematic theory of causation than I consider is warranted. We should, I think, reserve judgment as to the complete adequacy of such theories about the causation of neurotic or psychotic illness. There may be important genetic

and biochemical deficiencies, or physiological disturbances, which also play a part in the complex causation, precipitation, and perpetuation of such illness.

Meanwhile, lacking a full knowledge of such factors, and having quite limited means of controlling them, we, as physicians in psychiatry, can do much to assist many of our patients to cope better with their life situations through our compassionate understanding of attitudes and by whatever talent or skill we may have for evoking the patients' emotional resources.

John C. Whitehorn, M.D.,
Baltimore, Md.

CORRECTION

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : We sincerely regret the error, which has been called to our attention, concerning the recording of a reference (#27) in our section on "Clinical Psychiatry and Psychotherapy" in the "Review of Psychiatric Progress 1962," appearing in the *Journal*, 119 : 616-621, 1963.

The reference to *Psychosomatic Medicine* names Sloane, *et al.* as authors. The correct reference is Barber, T. X. : Hypnotic Age Regression : A Critical Review. *Psychosom. Med.*, 24 : 286, 1962. This correction will appear in all reprints distributed.

Nolan D. C. Lewis, M.D.,
Frederick, Md.

NEWS AND NOTES

CENTRAL NEUROPSYCHIATRIC HOSPITAL ASSOCIATION.—The annual meeting of the Association will be held at the Hotel Bismarck, Chicago, Ill. on Mar. 14-15, 1963.

Henry Dollear, M.D., is President of the CNPHA and George T. Harding Jr., M.D., 445 East Granville Road, Worthington, Ohio, is Secretary.

THE ACADEMY OF PSYCHOANALYSIS.—The annual meeting of the Academy of Psychoanalysis will be held at the Hotel Ambassador, St. Louis, Mo., May 4 and 5, 1963. The subjects for the panel will be "Post-Freudian Contributions to the Theory and Practice of Psychoanalysis and Psychotherapy." Inquiries may be directed to Alfred H. Rifkin, M.D., 125 East 65th Street, New York 21, N. Y.

The officers of the Academy for 1962-1963 are: President: Sandor Rado, M.D.; President-Elect: Franz Alexander, M.D.; Secretary: Alfred H. Rifkin, M.D.; Treasurer: Earl G. Witenberg, M.D.

CONGRES DE PSYCHIATRIE ET DE NEUROLOGIE DE LANGUE FRANCAIS.—This congress will be held at Nancy, Sept. 9-14, 1963. Subjects considered will be: 1. Psychiatrie: "Les états délirants oniroïdes," by M. S. Follin; 2. Neurologie: "Les manifestations nerveuses des hémopathies," by MM. R. Labauge et Izarn; 3. Médecine Légale: "Fugues et crises d'automatisme de longue durée chez l'adulte," by M. M. Bonduelle.

THE SOCIETY FOR CLINICAL AND EXPERIMENTAL HYPNOSIS.—The Society will hold its 15th annual meeting at the Barbizon Plaza Hotel, New York City, Oct. 23-26, 1963.

George Wallace, M.D., 9101 Shore Road, Brooklyn 9, N. Y., is chairman of arrangements.

LINDAUER PSYCHOTHERAPIEWOCHES.—The thirteenth Lindau Psychotherapy Week will be observed in Lindau, Bodensee, April 29-May 11, 1963, under the chairmanship of Dr. Helmuth Stolze. The first week will be devoted to papers and discussions on the theme "Vom Wesen der Sexualität." A

workshop will be conducted during the second week. For further information please write to the Sekretariat der Lindauer Psychotherapiewoche, Muenchen 27, Adalbert-Stifterstr. 31, Germany.

INTERNATIONAL JOURNAL OF NEUROPHARMACOLOGY.—Volume 1, numbers 1 to 3, of this Journal bears the date November 1962. It contains the papers presented at the First International Pharmacological Meeting in Stockholm, 1961. This Journal is edited by B. B. Brodie, Bethesda, and C. Radouco-Thomas, Geneva, with an international Editorial Board of 33 members with Nosal of Basle as Associate Editor. There is an Editorial Advisory Board with chairmen C. Heymans, Ghent, and H. H. Jasper, Montreal, with an extensive international list of members. The Journal is published by the Pergamon Press, Oxford, London, New York and Paris, and will appear bimonthly.

Annual subscription rates for libraries, government agencies, industrial establishments, etc., \$40.00; for individuals ordering the Journal directly from the publisher for their personal use, \$15.00.

WISCONSIN PSYCHIATRIC INSTITUTE.—A workshop on psychotherapy and psychotherapy research will be held June 23-29, 1963 at the University of Wisconsin's "Wisconsin Center," sponsored by the Wisconsin Psychiatric Institute. Principal leaders will be Carl R. Rogers, Eugene T. Gendlin and Charles B. Truax. Subject areas will include individual and group psychotherapy with schizophrenics and others, and research instruments, methods and findings in those areas. The workshop is intended for experienced psychotherapists with a doctoral degree or equivalent training.

For application and information write to: Workshop, Wisconsin Psychiatric Institute, Psychotherapy Research Group, 1339 University Avenue, Madison 6, Wisconsin.

CORRECTION.—Heading the caption lines of the article "Murder and Insanity," page 754, of the February issue, the name of the author should be added, "Aeschylus (526-456 B.C.). Eumenides:."

BOOK REVIEWS

NEBRASKA SYMPOSIUM ON MOTIVATION, 1961.

Edited by *Marshall R. Jones*. (Lincoln : University of Nebraska Press, 1961, pp. ix + 210, with indexes. Paper \$3.25, Cloth \$4.25.)

This volume presents the papers and discussions of the 9th annual Nebraska Symposium on Motivation. It is not a book for casual reading for one in search of quick and easy motivational formulations.

In the initial paper on the "Behavioral Regulation of Water-Electrolyte Balance," John L. Falk presents a body of experimental work on the eating behavior and drinking behavior of rats which may disturb the complacency of anyone who has believed that all such behavior was neatly explainable as homeostatic. In summarizing a number of experiments he states: "Both the compensatory and normal acceptance of NaCl solutions seems to be under the direct control of central factors. These central factors are responsive to homeostatic requirements, but apparently are not solely determined by these considerations."

Philip Teitelbaum presents a review and experimental report on the feeding and drinking behavior of rats, after hypothalamic injuries (1) in the ventromedial region (to which he attributes such an effect upon the satiety mechanism as to lead to obesity and then to regulation of body weight at the obese level) and (2) in the lateral region (producing deficits in feeding and drinking from which there may occur partial recovery which follows a pattern of four clear-cut stages).

Carl Pfaffmann reports at length on the sensory and motivating properties of taste.

Perhaps the prospective reader, if psychoanalytically oriented, should be advised that the paper on "A Motivational Interpretation of Extinction," by David Birch, bears no discernible relation to the so-called death instinct. Rather, it is concerned with the reversal learning performance of rats. Experiments do not confirm the expectation that the persistence of a response under non-reward conditions is directly related to the number of prior rewarded trials. Birch is concerned with quantitative behaviorial measurements, in the tradition of Hull; in these experiments he measures latency of response, and presents his results both as reciprocal of latency and as logarithm of latency. He suggests that the superior extinction achieved by the overtrained may be

motivationally explained by the introduction of competing responses activated because of the higher level of frustration experienced by the overtrained (if this reviewer has understood correctly).

The second section of the book is more directly concerned with human motivation. Seymour B. Sarason reports his awareness that human beings cope with problems in development which are distinctively different in content than those faced by experimental animals, and he presents evidence (in the form of illustrative examples) for his assumption of the interrelatedness of the contents of the human problems. He raises but does not answer the question, "How are different problem-solving areas related?"

W. J. McKeachie explores the interrelatedness of student motivation with teaching methods in college learning, particularly in regard to the "feed-back,"—the clarity with which instructors indicate how to obtain good grades. Students differ in how they are influenced by such feed-back. His material is organized according to the ratings of different students in achievement motivation, power motivation and affiliative motivation. The author states that he is "pleased with the outcomes in relation to the original problem of identifying important human motives in education."

This book, and this series of symposia and publications, serve to assemble representative samples of the large amount of experimental work and psychological theory concerning motivation. Most of the reports are not readily assimilable for clinical use; yet studies of motivation have relevance to basic psychiatric problems.

JOHN C. WHITEHORN, M.D.,
Baltimore, Md.

PSYCHOPATHOLOGIE HEUTE. Professor Dr. med., Dr. phil., Dr. jur. h. c. Kurt Schneider zum 75. Geburtstag gewidmet. Edited by *Heinrich Kranz*. (Stuttgart : Georg Thieme Verlag, 1962, pp. 380. \$12.00.)

This book is a precious birthday gift for Kurt Schneider from forty of his pupils and friends. Statistically speaking, there are thirty German, three Italian, two French, two English, one Belgian, one Portuguese and one Spanish contributor. Among them are thirty-four psychiatrists, one neurologist, one clinical

neurophysiologist, one pediatrician, one philosopher, one psychiatric social worker and a professor of criminal law.

The first essay by Henri Ey (Paris) deals with Kurt Schneider's particular merits in the clinical field; Ey calls him "le plus grand Maître de l'école clinique contemporaine." De Rosa (Heidelberg) develops thoughts concerning psychopathology in respect to history of science. Pauleikhoff (Muenster, Germany) considers psychopathology as an independent science in its own right. Müller-Suur (Goettingen, Germany) discusses the specific event of the schizophrenic from various viewpoints. Weitbrecht (Bonn, Germany), whom this reviewer considers one of the leading German psychiatrists, uses the problem of dementia to explicate how imperative it is to rid oneself of old prejudices and to come to new concepts. E. Schmidt (Heidelberg), the lawyer mentioned above, gives a sound consideration how judge and expert can and should cooperate in criminological problems.

It is not possible here to mention all the contributions. The editor of the volume—Kranz (Mainz)—can be congratulated on the work of love and labor in which he shortly says in his preface that the pupils have worked ahead and with their very progress shown what "psychiatry today" owes to Kurt Schneider. Despite the serious facial expression on the excellent photo that precedes the text, Kurt Schneider appears to be well pleased with the endeavors of his students and friends. To him: *ad multos annos!*

EUGEN KAHN,
Houston, Texas.

DEATH ROW CHAPLAIN. By Byron S. Eshelman with Frank Riley. (Englewood Cliffs, N. J.: Prentice-Hall, 1962, pp. 252, incl. index, illus. \$4.50.)

Chaplain Eshelman's prison experience includes 3 years on Alcatraz Island and 10 years at San Quentin. His collaborator, Frank Riley, is a free-lance writer of considerable experience.

The substance of this book would seem to make credible the statement that Mr. Eshelman "has worked more intimately and at greater length with more men and women awaiting execution than any other person in America."

The author states his own position clearly at the beginning: he is opposed to capital punishment; he regards it as a symptom of a deeper social malady and holds that "When the deeper condition is adequately healed, the

surface symptom will vanish."

At the same time he quotes respectfully J. Edgar Hoover of the F.B.I. "The criminal fears capital punishment. Where there is no shadow of doubt concerning the guilt of the defendant, the public interest demands that capital punishment be invoked where the law so provides." But the chaplain must stick to his *Fach*, and he does so apparently with conviction. He marshals some persuasive reasons, social and biological. In the infliction of capital punishment, he feels, "the Son of Man has been crucified again."

As chaplain he spends much time with individual inmates, especially those awaiting execution on Death Row. An agnostic convict's lack of religion he respects. To others amenable to religious influence he gives guidance. One member of a "prayer therapy group," he mentions, "has since been paroled and is now making better than average grades as a divinity school student."

In his initial assignment to Alcatraz Eshelman came to know Robert Stroud, the "Birdman of Alcatraz," who had committed his first murder at 18. Sentenced to death, he was granted a commutation by the invalid president Woodrow Wilson. Last year at age 70, after 52 years in prison, he was working on writs, still looking hopefully toward parole.

Chaplain Eshelman gives vivid accounts of the lives and crimes of the men on the Row and how they met their death. He relates that in general they were on easier terms with the chaplain than they were with the psychiatrists or psychologists. He describes the ritual of the convicts' last day, including the chaplain's presence at the execution if the condemned man wished him there or did not definitely object to his attendance, as an occasional one did. Sometimes, as suggested by the picture on the dust jacket, the chaplain seemed to have been able to infuse religious faith into the mind of the convict so that with sins forgiven, he could go to his death with prospect of a happy life beyond, in one case for example reunited with the wife he had murdered.

The longest case history in the book is that of Caryl Chessman. The "twelve-year hell" (Chessman's words) he spent on Death Row at San Quentin is the enduring shame of American judicial procedure; Eshelman as a result of 10 years intimate acquaintance with Chessman states categorically: "I believe that the State of California executed the wrong man."

What was remarkable about Caryl Chessman was that during his life on Death Row he

gave himself much of a liberal education. He read law and became expert in his own defense. Eight times his date with the gas chamber had been set; seven times he had been able to beat it off. He was the leader and legal advisor of other convicts on the Row. The chaplain reports that a noted legal expert had said that Chessman was "one of the sharpest and best trained lawyers I've ever met." His I.Q. was 130.

Chessman was resourceful enough to smuggle the mss. for several books off Death Row to his publisher in New York City. The first of these, *Cell 2455, Death Row*, published in 1954, "sold more than half a million copies in the United States and has been translated into a dozen foreign languages." Much of the income from his publications went for legal assistance. The Government did everything it could to prevent him from earning that income and when he did earn it the Government levied a huge income tax. He estimated that he had spent about \$100,000 for his defense and that the State had spent about \$800,000 "trying to jockey me into the gas chamber." It took the State 12 years to succeed.

Chessman was an agnostic and he did not soften at the end.

Chaplain Eshelman sums up his arguments against capital punishment in the last two chapters of his book, titled "Some Clinical Insights" and "A Theological Interpretation." These chapters impress the reviewer as rather an anticlimax. The author speaks of possible assumed rationalization by a criminal of his criminal motives based on "the dangerous smattering of psychology so prevalent in our culture, and so ineptly disseminated by newspaper and magazine 'counselors.'" The author does not impress one as being wholly free from this same tendency. And when he concludes that the killer "is trying to escape from anxiety and fear so that he can be at peace [and that], without being able to define it, he is actually suffering from a profound religious hunger," should he not be a little more discreet in his phraseology? There are other such arguable points in this last chapter, which is really quite a sermon.

However the book was worth the writing. It throws vivid light on the lives of the convicts whose case histories are given, particularly on that of Caryl Chessman whose life had become valuable. The reviewer agrees with the chaplain that it should not have been destroyed. Psychologically he was probably superior to some of those who had authority over him. There is too much forgetting that the law is made for man rather than that man is

made for the law. It is submitted that the ancient dictum "the punishment should fit the crime" should be replaced by a better one: "the punishment should fit the man."

C. B. F.

FOUNDATIONS OF PSYCHOPATHOLOGY. By John C. Nemiah, M.D. Introduction by Kenneth E. Appel, M.D. (New York: Oxford University Press, 1961.)

Here is a book with unusual merit; it is beautifully written, has literary quality and shows the important use to which a broad cultural background may be put by a teacher of psychiatry. Dr. Nemiah intends the book to be an introduction, but it is much more than that. It introduces psychological medicine to the reader in a way that initiates sympathetic understanding of this major aspect of medical practice. As Professor Kenneth Appel says in his introduction: "This is in many ways a new kind of book in psychiatry. It does not represent the customary working-over of wellworn concepts for presentation to students; nor is it a new textbook of psychoanalysis. There is nothing treadmillish, schematic, or pat about it, nor is it partisan in approach. Clear, accurate, and scholarly, it sketches pathways and byways of explorations into human nature—its vicissitudes and distortions, its blind alleys and tragedies, its pathos and potentials for creative integration.

"... This book is not merely one on psychopathology. It is a sympathetic, clear, understandable portrayal of much that is essential in psychiatry, human nature, its fallings by the way and its rehabilitation."

The book is in four parts. In the first is discussed mind and body, fantasy ("to classify is not to understand") and interviewing ("the importance of being a listener"). Part II takes up three fundamental concepts: psychological conflict, the unconscious and repression, and the childhood roots of emotional disorders. Part III deals with symptom formation and is made vivid by many verbatim reports from patients. In Part IV there are illuminating chapters on defenses, psychological complications of physical illness, the concept of psychosomatic medicine, and the importance of understanding the doctor-patient relationship.

Amid the plethora of publications on psychiatry this book stands out as one which can be recommended to the young physician or student to start him off on the right foot in his understanding of psychiatry in medicine.

S. C.

EXPERIMENTS IN PERSONALITY. Vol. I, Psychogenetics and Psychopharmacology; Vol. II, Psychodynamics and Psychodiagnostics. Edited by *H. J. Eysenck*. (New York: Humanities Press, 1961, pp. xii + 262 and viii + 333. \$16.00.)

These two volumes have been eagerly awaited and will be welcomed. They report a series of important experiments from the Psychological Department of the Institute of Psychiatry, Maudsley Hospital. The experiments reflect the editor's general theory of personality, which is well-known.

The scope of the experiments is almost bewildering in its ambition. Volume I (Part I) deals with Broadhurst's experimental enquiries into the Applications of Biometrical Genetics to the Inheritance of Behaviour. Part II deals with Psychopharmacology, and reports a large number of experimental studies on the effects of stimulant and depressant drugs. A new mathematical model is presented for the classification of drugs according to their psychological effects.

Volume II (Part I), Experiments in Psychodiagnostics, is devoted to a very detailed investigation of thought-disorder in schizophrenia (Payne and Hewlett). Part II, Experiments in Psychodynamics, presents several experiments testing some deductions from Eysenck's dynamic theory of anxiety and hysteria. Part III, Experiments in Psychometrics, examines modern statistical methods useful in the solution of problems of classification, diagnosis and nosology. Most of the methods discussed are those used in the investigations reported in earlier parts of the book.

The editor's Epilogue (The Place of Theory in Psychology) complements his Introduction (which interprets the reasons for and purposes of the total publication), and justifies the importance and systematic significance of "weak" theories in the fields of investigation here under scrutiny.

W. LINE, PH.D.
University of Toronto.

A MANUAL OF NEUROLOGY AND PSYCHIATRY IN OCCUPATIONAL MEDICINE. By *Ralph T. Collins*. (Modern Monographs in Industrial Medicine. New York and London: Grune & Stratton, 1961.)

This monograph grows from the author's many years experience as consulting neurologist and psychiatrist for the Eastman Kodak Company. It does not pretend to supplant the more inclusive textbooks of neurology or psychiatry but attempts to bring into one volume

an outline of such information as might be useful to the industrial physician. In 232 pages the author covers a wide area, relying largely on outlines, tables and charts.

The company with which the author is associated has for a long time been interested in the welfare of its employees for many reasons. Its medical department is well-established employing the services of many specialists other than in neurology and psychiatry. To some outside observers the attitude of this company has been likened to that of a benevolent matriarch. The book reflects that attitude and takes it for granted that psychiatrically and neurologically handicapped employees will under most circumstances be continued in employment. The manual, since it is written by one active in industry, is written with the presumption that all employees, even those ill, are well motivated for employment. The book may not be so applicable to neuropsychiatric problems which may be experienced in a welfare agency, a charity clinic or a union health center.

One major criticism we have of this volume is the tendency to underestimate the sophistication of our non-psychiatric colleagues. Our experience in conducting seminars with non-psychiatric physicians has taught us not to be hesitant in explaining the dynamics of various psychiatric problems. For example, the dynamics of an illness triggered by a promotion are no different from those emotional disorders that follow moving from a crowded apartment to a more luxurious one, the birth of a grandchild or the attainment of a great reward, all of which can result in depressions or other disorders in susceptible persons. The difficulties are not in the new apartment, for example, upon which the patient may focus his attention, but more usually the repressed anger which kept him in the previous frustrating situation without doing anything about it. To simply explain regressions as the desire to become dependent again on those around one (pp. 156) is to emphasize a secondary gain rather than the return, for one reason or another, to a previous stage of adaptation.

As might be expected in a first edition certain errors went unnoticed. Among others: Kernig's sign (pp. 39) is confused with nuchal rigidity in meningismus; in Lasègue, the accent is grave rather than acute; it is Patrick test not sign; and commitment has only one "t" in the center. The tests discussed briefly on page 153 are those of abstract conception rather than intellectual attainment.

Aside from these rather minor errors, Dr. Collins is to be congratulated for compiling a

massive amount of material in condensed form. It is hoped that in future editions he will be less hesitant in showing his psychiatric erudition.

MATTHEW BRODY, M.D.,
ALAN A. MCLEAN, M.D.,
New York.

BRAIN AND BEHAVIOR. VOL. 1. Proceedings of the First Conference. Edited by *Mary A. B. Brazier*. (Washington, D. C.: Am. Instit. Biol. Sci., 1961, pp. 433. \$7.75.)

This volume contains the proceedings of the first of a projected series of conferences sponsored by the Brain Research Institute of the University of California in Los Angeles under the general heading "Brain and Behavior." The conference was supported by the National Science Foundation, and the proceedings published by the American Institute of Biological Sciences, with whom Frank Fremont-Smith, who organized similar conferences for the Macy Foundation, is now affiliated. The book is handsome, well printed and illustrated, and well edited. It achieves distinction not only from the high scientific standing of the 27 participants, but also from its truly international character, since nearly half of the participants came from foreign countries, including Poland, Hungary and the U.S.S.R.

Though this conference concentrated its interest on sensory perception, it inevitably involved most of the current basic problems of neurophysiology, where developments of the past two decades, due largely to newer electrophysiological techniques, have been extraordinarily rapid. Those of us who have been educated to believe in the specificity of end-organs and sensory nerves will find their basic assumptions challenged and revised. Sensation can no longer be regarded as the mere product of discrete nerve impulses initiated in the periphery and conducted on specific tracts to the thalamus and cortex to form complex synaptic connections or to link up with higher neurones in the motor complex. Every one of these assumptions must now be questioned or reformulated. The same end-organs can transmit different sensory modalities (Wedell), the fiber-tracts are far less specific than we thought, the non-specific alerting systems can permit or block a sensory perception, descending elements may be essential in perception, and the sensory cortex not only seems no longer to have the strict boundaries we once thought it had, but even the sensory and motor cortex are now intermingled. The supposed unitary nature of the alerting reticular system

is now decomposed by the ingenious pharmacological experiments of Anokhin who suggests there are three distinct subcortical activating mechanisms: 1) to maintain wakefulness, 2) to alert or arouse, and 3) to warn or alarm. Galambos pulls out the last remaining prop of traditional neurological thinking in psychiatry by developing his bold view that the glial structures are important elements in both synaptic relations and in storage of sensory information. "It is possible," Galambos declares, "that several of the complexities of brain function we have been striving with limited success to comprehend through analysis of neuro-neuronal processes alone will become resolved at last when we obtain solid data from experiments on glia function."

The summation by Teuber is erudite and judicious. There is much that seems important in this compact and crowded volume, but I think its main effect on most psychiatrists will be to drive them to the newer neurophysiological texts to discover what has been going on in recent years. The gap between these experimental studies and human behavior is still enormously big, but clinical psychiatrists cannot afford to indulge themselves with points of view based upon an outdated physiology. Even our notions of "chronic brain syndrome" and "organicity" seem very crude if one takes account of the complex subtlety of neural processes as described here. If we cannot emulate our laboratory colleagues in the precision of their data and methods we can at least take notice of their work, and of their expressions of confusion or ignorance. It would be well if more of the physiologists could address themselves to clinical problems and if clinicians could more often test some elements of their hypotheses in the laboratories.

JOSEPH WORTIS, M.D.,
New York, N. Y.

ASYLUM TO COMMUNITY: THE DEVELOPMENT OF THE MENTAL HYGIENE SERVICE IN VICTORIA, AUSTRALIA. By *E. Cunningham Dax, M.D.* (Melbourne: F. W. Cheshire Ltd., for the World Federation for Mental Health, 1623-78th St., New York 21, N. Y., 1961, pp. 230.)

In 1952 Dr. Dax went to Australia from a hospital superintendency in England. His new job was to develop a modern mental health program for the State of Victoria under 1950 legislation which had established a Mental Hygiene Authority for Victoria. Doctors J. R. Rees and Morton Kramer visited Victoria in 1960 and were so impressed by the accom-

plishments of Doctor Dax and his colleagues in the span of 8 years, that they urged him to write up his experiences for the World Federation for Mental Health. Hence this extraordinary book by Doctor Dax, who, in British tradition, is both master of the understatement and sensitive to the broader scene—current and historical—in which his work has been carried forth.

Victoria is the smallest state in Australia proper. It is comparable in size to Minnesota and in population to Connecticut or Maryland. Of its almost 3,000,000 persons, 1,900,000 live in Melbourne and its environs. In 1952 the services and facilities for the mentally ill were in a deplorable state of overcrowding, neglect and disrepair. By 1960 these conditions in the institutions had been, for the most part, corrected by staff increases, new construction, remodeling of some old structures and abandonment of others. Professional training programs and new research opportunities had now begun to bring many more young people into the mental health field. Volunteer programs in the institutions and in new community clinic and mental health services were proving extraordinarily successful.

The philosophy expressed by Doctor Dax's title, *Asylum to Community*, can be seen in action in his descriptions of a "Psychiatric Unit," and the "Personal Emergency Advice Service." A "Psychiatric Unit" is the headquarters of the regional psychiatric and mental health services. It is adjacent to a general hospital, may purchase services from it, but is not a part of it, thus differing from the usual psychiatric wards and clinic services in general hospitals. Although a "Psychiatric Unit" has many functions, Dr. Dax highlights the following: public relations and mental health education; consultation services to schools, public welfare, public health, general practitioners, police, clergy and others; the staffing of emergency services, outpatient clinics for adults and children, a day hospital with a small inpatient facility, and community rehabilitation services for formerly hospitalized patients.

The Personal Emergency Advice Service opened in April 1960. Over 100 trained volunteers are available to man the three telephones located in a Melbourne clinic. The phone number is listed on the first page of the Melbourne directory. Callers can remain anonymous. During the first year of operation almost 2000 calls were handled. The volunteers not only give information but are trained to pick out acute emergencies from those that can wait, and to "help persons solve their own difficul-

ties by talking them out." Consultants and clinical services are immediately available as backstops for the volunteers. Doctor Dax stresses the value of this service as an anxiety reducer and as a tool for public education and orientation.

This reviewer is impressed not only with the full involvement of the public but also with the demonstration of the value of having a central mental health authority which can plan and coordinate all mental health services and functions for the state, including preventive services as well as hospital, clinic and consultation services for the mentally ill, the mentally retarded, juvenile offenders, and others. Many of the recommendations of the Joint Commission on Mental Illness and Health can be seen in operation in the Victoria program. The book is recommended to all who are concerned with improvement of our mental health programs. Mental Health Associations could provide a great service by making this book available to legislators and other state officials concerned with or responsible for such services.

WARREN T. VAUGHAN, JR., M.D.,
San Mateo, Calif.

MENTAL HEALTH IN THE METROPOLIS. The Midtown Manhattan Study. By Leo Srole, Thomas S. Langner, Stanley T. Michael, Marvin K. Opler, and Thomas A. C. Rennie. Thomas A. C. Rennie Series in Social Psychiatry, Vol. 1. (New York, Toronto, London: Blakiston Division, McGraw-Hill, 1962, \$9.95.)

Classical psychiatry, having been concerned with individual pathology and malaise for the longest time, finds itself drawn more and more into a variety of functions within the community and called upon for the purpose of interpreting, for public education, preventive services and community leadership. Such experiences prompted the late Thomas A. C. Rennie to assemble a staff of sociologists and psychiatrists to study the mentality and discontents of a circumscribed area, Mid-Manhattan.

This reviewer introduces the terms "malaise" and "discontent" advisedly because the authors in their search for a definition of being well and the deviations from this status have given up the clinical nosological foundations, i.e., the absence or presence of diagnosable pathology. They feel that social functioning and smooth adjustment to social life should be the matrix from which concepts of mental health may be derived. Several years ago Marie

Jahoda, analyzing current (sociological) concepts of positive mental health, left the reader with the feeling he had passed by a long line of beautifully arranged scrap heaps. Not one of these concepts could finally hold its own. The same objection must, on principle, also be raised against *Mental Health in the Metropolis*.

The book, written to satisfy both the specialist and the general reader, is somewhat too top heavy with statistics for the latter, and not sufficiently detailed for the former type of reader.

Having assembled all the objections, this reviewer may say that this a highly worthwhile book, one that opens up vistas and asks questions that remain sensible even if answers are not given or may be disputed. "If the Midtown Study in any way illuminates the proposition that emotional blights might germinate at points of encysted socio-cultural dysfunctions, then it will have served the vision of Rennie and his colleagues."

Moreover, there is, from the pen of Leo Srole (Chapt. 5, 6 and 7), a community portrait that, as Srole modestly says, "perhaps would be better drawn through the novelist's or playwright's special flair for conveying character in action." This reviewer does not hesitate to call these chapters the most dramatic and tangible picture of New York he has ever read. Those who have cursed New York and those who have learned to love it are quoted. "The real advantage of living in New York is that all its residents ascend to heaven directly after their deaths, having served their full term in purgatory right on Manhattan Island." Steinbeck left the Whore of Babylon only to come back and experience mystically that he was no longer a stranger, that he had become a New Yorker. "Since the New York child has breathed exhaust fumes all his life, he can endure anywhere . . . he wouldn't swap New York for all the fresh air in the West." On the planting of trees in the streets of Manhattan some editorialist remarks: "The Indians may yet be persuaded to take it back." "New York is the world with every vice and blemish and beauty . . . What more could you ask?"

As the book is being quoted frequently, it should be brought out clearly that there are no definite results. Particularly, the popular blame that living in New York is tantamount to living in a constant tension, if not foreshortening one's life, is not confirmed by the Mid-Manhattan Study.

W. G. ELIASBERG, M.D.,
New York, N. Y.

ATLAS III. ILLUSTRATIONS OF THE NERVOUS SYSTEM. By Louis Hausman, M.D. (Springfield, Ill.: C C Thomas, 1961, pp. 168. \$9.50.)

This Atlas, along with the previously published Atlases I and II, is planned to be used with the author's textbook *Clinical Neuroanatomy, Neurophysiology and Neurology, with a Method of Brain Reconstruction*, published in 1958.

Atlas III, seen apart from the rest of the series, stresses the nerve-pathways and their functional significance portrayed in diagrams of great clarity, many of which have been drawn by Miss Mary Lorenc. In the more specialized fields of study diagrams have been reproduced from modern "classical" papers to illustrate the fundamental principles of such subjects as cerebrospinal fluid pressures, electroencephalography, arteriography, venography, ventriculography, intervertebral disc herniation and the results of cortical stimulation in the study of epilepsy.

There is no index, but the use of this Atlas as a reference book is assisted by a detailed table of contents.

ERIC A. LINELL, M.D.,
Toronto, Canada.

FIRST INTERNATIONAL CONFERENCE ON CONGENITAL MALFORMATIONS. (Philadelphia: J. B. Lippincott Co., 1961, pp. 314. \$7.50.)

This volume presents the papers and discussions at the First International Conference on Congenital Malformations, which took place in London, 18-22 July 1960. The papers present a very wide coverage of this important subject, and constitute an authoritative and important survey of this new field of investigation.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

NEUROLOGICAL FOUNDATIONS OF HUMAN BEHAVIOR. By C. Judson Herrick. Introduction by Paul G. Roope. (New York: Hafner Publishing Co., 1962, pp. 334. \$9.50.)

Neurological Foundations of Human Behavior, by the founder of the American school of neurology, the late C. Judson Herrick, is a classical work, first published in 1924, and out of print for some years. It is good to have this fundamental book available again. Good wine needs no bush, and the present volume has an established and imperishable reputation which requires no gilding. It must, however, be said, that the volume is as readable and as stimu-

lating as any book published within the last 40 years, and throughout is infused with the personality of a man who was at once both a great investigator and a great humanist.

A classic is by definition a book that is either out of print or unread or both. Well, *Neurological Foundations of Human Behavior* is back in print. It is an advantage which should not be overlooked.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

GENERAL PATHOLOGY. Edited by Sir Howard Florey. (Philadelphia and London : W. B. Saunders Co., 1962.)

The 3rd edition of this well-established text book of general pathology has brought in a remarkable innovation. Electron microscopy has become an integral part of the tools employed by the pathologist. The author, himself a well-known electron microscopist, has used his own researches in the field of inflammation and in the study of mucin secretion as a basis for rewriting the chapters on these two subjects. The electron micrographs which accompany these chapters are so excellent that they can hardly be surpassed, and they provide the student with a totally new dimension in the study of basic pathology.

The remainder of the book, although fundamentally altered in some parts, remains essentially the same as in previous editions. One may level only one criticism against this book and that is its extent and thoroughness which render it somewhat undigestible to the undergraduate, and which may even present a hard lump to swallow for the postgraduate student.

Thus in essence this is a textbook for the specialist in the field of pathology, and should be treated by any other medical man as a reference book only.

JAN W. STEINER, M.D.,
University of Toronto.

BEHAVIOR OF THE ORGANISMS. By Herbert S. Jennings. Introduction by Donald D. Jensen. (Bloomington : Indiana Univ. Press, 1962, pp. 366. \$7.50.)

Behavior of the Lower Organisms is one of the classics of biology, by one of its greatest practitioners, Herbert S. Jennings. It was first published by Columbia University Press in 1906. It is curious that nowhere in this reprint, though it contains an interesting introduction by Dr. Donald Jensen, is this fact mentioned. There are many things to be said about this volume. In the first place, it remains as inter-

esting, as stimulating, and as sound as it ever was and always will remain. It is a seminal work for all who have any interest in the nature and meaning and evolution of behavior. In the second place, it is of great importance in the study of the development of the science of behavior. Among other things, it was the work which most influenced John Broadus Watson in the development of his own thinking, although he was the reviewer who, in 1907, in the *Psychological Bulletin*, wrote a highly critical review of the book. It is not to be wondered at that when, subsequently, Watson came to embrace Jennings' views he should have been loath to acknowledge their paternity. Dr. Jensen tells this story in his excellent introduction which, however, as I have already indicated, leaves bibliographically something to be desired.

The book is reproduced exactly as it was originally published, except that the type size is somewhat smaller. This is a great boon, because one can quote from this edition, as if it were from the original, word for word, and page-by-page. It is a book that should be read and in the library and in active use by all students of behavior.

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THE WIDENING WORLD OF CHILDHOOD. By Lois Barclay Murphy, et al. (New York : Basic Books, 1962, pp. 399. \$10.00.)

In our abnormal culture we have grown so preoccupied with the abnormal that the normal is likely to be lost by the way. The amount of research, for example, that has been on the normal behavioral development of the child is far outrun by that on the development of the abnormal child. A new and original work on the development of the normal child's behavior is therefore welcome. Adults, alas, too often fail to remember what it was like to be a child, and to realize that it is much more difficult to be a child than it is to be an adult. One of the most serious difficulties in the path of normal development for the child, one of the most intransigent obstacles to be overcome, is the adult. Adults expect children to be better than they are themselves. The child has to cope with expectations which are often conflicting. His world is full of awesome occurrences, or at least, occurrences that seem so to him; it is filled with frustrations, temptations, and confusions.

"Swept with confused alarms of struggle and of flight, Where ignorant armies clash by night."

How does he cope with all these problems? The answer to that question, based on detailed observation of 32 normal children, is the subject of this book. Because the team of observers have carried out their observations with intelligence, sensitivity, and imagination, this book constitutes an invaluable case-history report of the manner in which the normal child manages to cope with his environment and establish some sort of mastery over it on his way to that ever-widening experience which will lead him from childhood to maturity.

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PROGRESS IN NEUROLOGY AND PSYCHIATRY.
Vol. XVII. E. A. Spiegel, M.D. (Ed.).
(New York: Grune & Stratton, 1962, pp.
xiv + 607. \$12.75.)

This annual series is one of the best compilations of its sort of which this reviewer is aware in the whole of medical literature. Spiegel has a distinguished editorial board of assistants, and there are more than 60 contributors to the 35 chapters of subspecialties into which the four main subjects, basic sciences, neurology, neurosurgery and psychiatry, are broken down. Nearly 5,000 articles were reviewed, covering the principal Continental languages besides the literature in English. The text notes nearly 4,000 of these, which are indexed as reference lists after the appropriate chapters; and the references in the most important of these papers cover many articles which there was not space enough to mention.

It is impossible to assess authoritatively the individual papers in a compilation of this sort without virtually duplicating the work of the original researchers; the collection is encyclopedic, and, as in all collections of this type, including book reviews, the papers range from the bare reportorial type to critical evaluations of therapeutic means and techniques. Where there is critical evaluation, this reviewer would not in all cases endorse the conclusions without qualification. For example, he disagrees with the following statements by Frederick T. Kapp, M.D., and Louis A. Gottschalk, M.D. at the conclusion of their excellent review of drug therapy:

"From the evidence available, we believe that the use of major tranquilizers and anti-depressants is symptomatic. . . . Truly, drugs can influence human behavior. But ideas and

people exercise a greater influence. No drug can produce true peace of mind." But the student can use this comprehensive annual review to survey the literature himself and draw his own conclusions. The reviewer believes that no psychiatric library and no private practitioner should be without this important reference work.

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SOURCE BOOK OF MEDICAL HISTORY. Compiled with notes by Logan Clendening. (New York: Dover Publications, 1960, pp. + 685. Softbound. \$2.75.)

This well-made edition is an unabridged and unaltered reprint of the work first published in 1942, in which Dr. Clendening, Professor of the History of Medicine at the University of Kansas, brought together 624 papers representing discoveries and significant original work in medicine over a period of 4000 years. The material consists of complete texts, abstracts of longer works or adequate selections therefrom. Introductions to the various topics are provided, together with short biographies of the authors.

The editor takes advantage of the chronological arrangement of the material to include selections from contemporary lay literature to reflect the views of medical life of the successive periods. Here are quotations from Homer, Aristophanes, Plato, Thucydides, Aristotle; also from the Arabian Nights, Chaucer and Leonardo; from Moliere, Le Sage, Macaulay, Thackeray and Dickens.

This new edition of the *Source Book* is dedicated to the memory of Logan Clendening (1884-1945).

It is a thoroughly comprehensive and unique type of medical history, beginning with the Egyptian papyri and ending with Roentgen's papers "On a New Kind of Ray." Many of the documents here included have not previously been available in English. The assembling of the material was the work of years. Dr. Clendening's early death prevented what might have been a later edition or supplementary volume covering the "Firsts" of recent years. That will be the task of a future historian. It is fortunate that this valuable work is again available in this re-issue.

C. B. F.

PSYCHO-ANATOMY OF A DISASTER :
A LONG TERM STUDY OF POST-TRAUMATIC NEUROSES IN
SURVIVORS OF A MARINE EXPLOSION¹

ROBERT L. LEOPOLD, M.D., AND HAROLD DILLON, M.D.²

Early on the snowy morning of March 7, 1957, the *Mission San Francisco*, a gasoline tanker, collided with the *Elna II*, a freighter, in the Delaware River, near Newcastle, Delaware. Although the mission's tanks were empty of gasoline, they had not been freed of gas fumes, which, when mixed with air, become highly explosive. Sparks generated by the collision caused a series of explosions of such intensity that the sides of the *Mission* were blown out, the entire midship housing sank immediately, and the captain, all 3 deck officers, 5 crew men and the pilot were killed instantly. The engineers and crew who were in the stern of the vessel were badly tossed about and shaken. These men, deprived of leadership by the loss of the captain and mates, and surrounded by flames both on the ship and on the surface of the water, somehow made their way on deck, lowered life boats, and abandoned ship. Thirty-five men of a complement of 45 aboard the *Mission* survived and were taken ashore by various rescue boats. The *Elna*, although badly burned, did not sink, and all 23 of her crew survived. Some were able to remain aboard ship, and others were taken ashore.

Immediately following the disaster, the authors were requested by a firm of Philadelphia attorneys,³ representing the interests of the National Maritime Union, to examine 27 survivors of the *Mission* crew. Seventeen were seen on the day following the collision, the remainder within periods ranging from 48 hours to 13 days. Of these 27, 25 were

re-examined in the authors' offices after periods varying from roughly 3½ to 4½ years. In addition, in 1961, 9 more survivors (including 5 from the *Elna* crew) were examined.

Thus a unique opportunity was presented to study in almost pure culture the natural history of the post-traumatic states and to search for data pertinent to the psychological effects of sudden, life-endangering trauma. The situation was unusual in that it permitted observation of both the short and the long term effects. Three other special factors made it potentially useful: 1. Since the circumstances of the accident were relatively homogeneous for all those who survived it, the nature of the accident could be regarded as a constant, and the individual responses as variables. 2. Since, for various reasons, no systematic psychotherapy was available for these patients, the processes of emotional adjustment to disaster were observable without the potentially ameliorating effects of therapy. 3. The element of litigation anxiety was considerably lessened in these cases because of the unique position of seamen with regard to compensation.⁴

⁴ Because of the nature of sea work and the hazards involved, the seaman surrenders his personal liberty for the life of his contract on his vessel. Consequently, the remedies for injury which are available to him are broader and more realistic than they are in common civil practice. A seaman is entitled to maintenance and cure in connection with any illness or injury which manifests itself during or is sustained in the vessel's service. It is only necessary for him to show that it was suffered during service and not because of it. On proper certification from his ship owner, the seaman can be treated at any Public Health or U. S. Marine Hospital. If necessary, he can seek other or specialized treatment. If hospitalization is not necessary, the ship owner is required to pay, in addition to the cost of medical care, a daily rate determined by union contract during the period that the seaman can be benefited by medical care and attention while under outpatient care. In addition, the seaman, if he can show that the vessel was un-

¹ Read at the 118th annual meeting of the American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

The help of Dorothy S. Kuhn, B.A. and Lotte B. Bernheimer, B.S. in compiling the data presented here is gratefully acknowledged.

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³ Messrs. Freedman, Landy and Lorry.

A diligent search of the literature of the past two decades failed to reveal any studies significantly similar to the one reported here. In both the medical and social science literature there is a staggering amount of material devoted to the subject of disaster. However, in the vast bulk of the literature, disaster, to the best of the authors' knowledge, refers to a sudden catastrophe which strikes an established social community, involves nearly all its people, and seriously disrupts its normal functions and facilities as the effects of the catastrophe reverberate within that community over a period of time. By comparison, only a small part of the literature deals with disaster in microcosm, and very little of that reports the psychological aspects of such disasters. Among the few papers of this kind are those of Cobb and Lindemann(1), Lindemann(2), and Adler(3, 4), concerning Boston's Coconut Grove fire in 1942. These reports differ significantly from ours in that the group studied represents a different socio-cultural level. Many women were involved and total family groups were disrupted. The effects of horror and fright in themselves were somewhat more complicated by the problems in personal and social relationships which involved conflict and guilt.

Among the many studies which provide a potentially useful theoretical framework for the study of post-disaster phenomena, special mention should be made here of those of Tyhurst(5, 6) and Wolfenstein(7), and of the two selections of papers edited by Chapman(8) and Demerath and Wallace(9).

Background Data. Ages at the time of the accident of the 36 men seen ranged from 18 to 55, with 90% in the 26 to 50 bracket. Two were over 50 and 3 were under 26. Thirteen were single, 22 were married, and 1 was divorced. Two of the married men were separated from their wives. Seventeen men had children.

The educational status of the group was generally low. Of 8 men who had attended maritime academies, only 2 were high

school graduates. The total of high school graduates was 5. Twelve men had attended high school from 1 to 3 years, with no further formal schooling. Of 15 men who had received only elementary school education, 9 had gone no further than the 7th or 8th grade. One man had received no formal schooling.

The majority were veterans of long service at sea: 13 had served more than 15 years; 13 had served from 11 to 15 years; none had been at sea less than a year. To a majority of the men, likewise, conditions of danger and threat were not unknown. Eighteen had served in the Merchant Marine during war years, and an additional 7 had seen military combat during war years (5 of them in the Navy). A number of those who had been in the Merchant Marine during war years had also served in the Navy during that time.

Personal and family histories, so far as could be determined, contained little significant material relative to the psychological conditions which followed the disaster. In spite of careful questioning, only one harrowing personal wartime experience could be elicited: a former Navy man had been involved in a bomb explosion in 1944 which had killed 222 sailors, whom he had helped to bury at sea, and he had suffered from an anxiety condition ever since. Three other patients, however, reported the loss of close relatives in World War II action, one of them having lost a brother and 2 cousins in tanker disasters. Two patients reported prior ship accidents in which they had not been injured physically, but which had caused them severe nervous shock. Three patients admitted to prior psychiatric treatment: one had been treated by a psychiatrist for headaches and poor memory; one had been hospitalized for depression; and the third had been hospitalized with a diagnosis of chronic schizophrenic reaction.

Thirty patients said they were moderate drinkers, 5 said they were non-drinkers, and 1 admitted to chronic alcoholism at the time of the accident. The majority said they smoked cigarettes in moderation. One patient, it may be noted, reported that his father had been a heavy drinker, and had suffered a "nervous breakdown." Another reported the death of a brother by suicide,

seaworthy, or can show any negligence in connection with his illness or injury, can recover compensatory damages as a cumulative right to maintenance and cure.

and a third patient a broken home and a cruel stepfather in his background.

Short Term Effects. For convenience in subsequent reference, the 27 patients who were seen in 1957 (25 of whom were re-examined in 1960/61) have been labeled Group 27; the 9 patients seen only in 1961 have been labeled Group 9. With reference to Group 9, the limitations of patient memory and the lack of objective evidence were obvious restrictive factors in obtaining data concerning conditions existing in 1957. Nevertheless, it was felt that such data had sufficient validity to warrant inclusion in our final totals in spite of some unavoidable skewing.

A rather surprising paucity of physical injury was found. Concussion clearly was present in 6 cases from Group 27 and 3 from Group 9. There were no fractures of weight-bearing bones. Fourteen men had abrasions, lacerations, and superficial contusions. One man had a number of small first degree burns. There was considerable early muscular soreness which disappeared quickly. More significant were the numerous gastrointestinal complaints for which no structural cause could be found.

TABLE 1
Psychological Complaints Immediately Following the Disaster

	NO. OF INSTANCES REPORTED BY GROUP 27 (EXAMINED IN 1957)	NO. OF INSTANCES REPORTED BY GROUP 9 (EXAMINED IN 1960/61)	TOTALS
Mood and affect disturbances	23	14	37
Sleep disturbances	11	6	17
Somatic reactions:			
Gastrointestinal	13	10	23
Other	5	6	11
Intellectual deficits	3	0	3
No psychological complaints reported	6	0	6

Table 1 catalogues the psychological complaints reported present immediately following the disaster by the 36 patients. It should be emphasized that instances rather than patients are listed here. Virtually without exception, complaints were multiple. The

37 instances of mood and affect disturbance, for example, represent the complaints of 26 patients. Predominant in this category were complaints of nervousness, tension, anxiety and general upset. Less frequent were complaints of restlessness, depression, excessive preoccupation with the details of the accident, and phobic reactions. Most numerous among the somatic reactions were gastrointestinal manifestations, usually multiple. These were reported by 12 patients. Other complaints reflecting somatic reactions included coldness and sweating, decreased appetite and tremors of the hands and body.

In 6 cases no psychological complaints were present. It must be noted that all of these came from Group 27. It is possible, of course, that no immediate psychological effects were felt subjectively by some of the patients in Group 9, but this cannot be reported with any accuracy in view of the lapse of time.

Objective evidence of psychological disturbance in Group 27 in general confirmed the complaints of the patients. Most of the patients seemed, in spite of their complaints, to be functioning at a fairly efficient level. However, a few appeared to be overwhelmed totally by the experience they had so recently lived through. Of 5 hospitalized patients, only 1 was admitted purely for physical considerations. Psychiatric considerations figured in the admission of the other 4; one was so depressed as to suggest the risk of suicide; one exhibited a panic reaction so acute that it was feared he might become psychotic; one, despite only a moderate amount of tension, was hospitalized because of a past history of serious mental illness; and the fourth had to be hospitalized because of the severity of his gastrointestinal manifestations.

Long Term Effects. The amount of psychological deterioration that took place between 1957 and 1960/61 was impressive, particularly in view of the relatively small amount of residual physical disability seen in 1960/61. The interim medical histories in themselves attested to the extent of the emotional suffering these men had endured. It is estimated that at least 26 had received some form of help for complaints of a psychiatric nature during the interim, at least 12 of them as hospital inpatients. Of the 26,

at least 10 had suffered from severe gastrointestinal manifestations. Psychiatric treatment appeared to have consisted largely of confinement and sedation. The few instances of psychotherapy reported were apparently limited to brief and infrequent interviews. In giving credence to these figures, one must bear in mind the low educational level of these patients in general and the lapse of time. Furthermore, the somewhat confused stories of many of the patients defy reduction to statistics. It is felt, however, that the estimates are conservative, and that there was probably considerably more treatment for psychological illness than was reported.

The somatic involvements reported in 1960/61, more numerous than those for 1957, were largely musculo-skeletal, the majority involving the muscles of the back and neck. Although considerable muscle spasm was found, the presence of neurological or bony disease could not be confirmed, and it was felt that the majority of these men had somatic reactions involving symbolically significant parts of their bodies. These findings were not disabling in the majority of cases. It must be noted here that one patient who had pre-existing Buerger's disease had had a leg amputation since the accident. Another patient was known to have had choreoretinitis prior to the accident. Nevertheless, he had had minimal visual difficulty all his life until shortly after the accident, when he had become totally blind. The mechanism by which this blindness was produced is unclear. A third patient had in the interim suffered a carcinoma of the bowel for which he had had a transverse colostomy, with an apparently satisfactory recovery.

TABLE 2
Psychological Complaints Reported in 1960/61

	NO. OF INSTANCES
Mood and affect disturbances	73
Sleep disturbances	28
Somatic reactions:	
Gastrointestinal	20
Other	51
Intellectual deficits	5
Sexual debility	6
No psychological complaints reported	1

Table 2 catalogues the psychological complaints presented by the 34 men examined in 1960/61. Here again, the figures represent instances rather than patients, and complaints were multiple in virtually all cases. Mood and affect disturbances increased from 37 reported by 26 patients in 1957, to 73 reported by 33 patients, in 1960/61. Complaints in this category were similar to those reported in 1957, but there was a marked increase in complaints of restlessness, depression, and phobic reactions. New complaints also appeared: feelings of isolation, of being watched, of hostility and distrust toward other workers. The sleep disturbances were reported by 22 patients as compared with 15 in 1957. The persistence of gastrointestinal manifestations is noteworthy. After 3½ to 4½ years, the proportion remains essentially the same as in 1957. The other somatic reactions included 20 complaints of headaches. In 1957, headaches were presumed to be the result of cerebral concussion. On this basis, they would have been expected to disappear after 3½ to 4½ years. But in 1960/61, well over half of the 34 patients examined complained of continuous and sometimes disabling headaches. It may be noted also that whereas in 1957 6 patients appeared to have no subjective psychological complaints, in 1960/61 there was only 1 such patient. Even in this case, we felt that a considerable portion of the patient's back disability could be attributed to a somatic reaction.

TABLE 3
Dates of Post-Accident Return to Sea Work of 34 Men Seen in 1960/61

Within one week	2
More than a week, less than 3 months	20
More than 3 months, up to 12 months	5
More than 2 years	1
Returned to sea, date not available	2
Never returned to sea	4
Total	34

The post-accident employment records of the men seen in 1960/61 attests poignantly to the long term psychological effects of this disaster. Table 3 shows the time lapses between the accident and the return to sea employment. It is true that approximately two-thirds returned within 3 months, and

that only 4 never returned at all. But Table 4, which summarizes the post-employment status of these men in 1960/61, shows a far gloomier picture :

TABLE 4

Analysis of Post-Accident Employment Status of 34 Men
Seen in 1960/61

Never returned to sea work	4
Returned to sea, but were forced to give it up entirely	12
Returned to sea, but work only sporadically	6
Known to be at sea with reasonable regularity	12
Total	34

Of the 4 men who never returned to sea, 2 were frankly incapacitated for work at sea by psychiatric problems, another was the blind patient mentioned above, and the fourth had a disabling back disorder which was felt to be functional in nature. Of the 12 men who returned to sea but who were unable to continue, all but 2 were psychiatric casualties. These 2 were the patients referred to earlier who had, respectively, an amputation and a colostomy.

All 18 men who continued to work at sea were greatly disturbed emotionally, 6 of them to the extent that they were unable to work as regularly as before the accident. All 18 were tense, anxious, nervous and fearful aboard ship. They indicated that going to sea was a matter of necessity. Six men said they definitely would not ship on tankers again in spite of the more lucrative nature of this type of work. Even those who still shipped on tankers, whether regularly or occasionally, said they preferred other ships, with the exception of 1 man who said that it made no difference; he was equally miserable on all ships. This same man, incidentally, was also the only one of the 18 who said that he would rather be at sea than on land: on land he felt like a "worn-out bastard"; while at sea, he at least had some sense of usefulness.

The majority of these men were seasoned veterans of the sea, and it should be emphasized that they were uniformly not able to earn comparable wages ashore. Nevertheless, the psychological difficulties of serving at sea were so compelling that of 22 men who showed deviations from their normal

employment patterns, 19 were considered essentially psychiatric casualties.

Correlations. A simple method was devised to produce a single numerical score for each patient which would express quantitatively the psychological change which took place between 1957 and 1960/61, and which could be used to correlate psychological change with other factors. Using both subjective complaints and objective observations, the examiners, working separately and then checking each other, scored each patient on individual aspects of psychological dysfunction for 1957 and for 1960/61. The scale used ranged from 0 (absence of dysfunction) to 3 (maximal dysfunction). The rare discrepancies between the examiners' scores were discussed and compromised. Scores were totalled for each year. If the 1960/61 total was larger than the 1957 total, the difference was expressed as a negative score showing the degree of psychological regression which had taken place in the interim (the larger the score, the greater the regression). If the 1960/61 total was smaller than the 1957, the difference, conversely, became a positive score showing the degree of psychological progress (the larger the score, the greater the progress). A zero score was regarded as showing no change.

It is recognized that the restrictions which made it difficult, with reference to the 9 men who were seen only in 1961, to assay conditions present in 1957, also made it difficult to assign psychological scores to these 9 men. But the authors felt that the scores in these cases had sufficient validity to warrant inclusion in the correlation studies. The authors acknowledge also that the samples used in these studies were too small for statistical validity but they consider the results significant in that they at least indicate trends.

Of the 34 men seen and scored in 1960/61, 24 had negative or regressive scores, 7 had positive or progressive scores, and 3 had zero scores showing no psychological change. In view of the preponderance of regressive scores (71%) attention is focused on them in the ensuing brief discussion of correlations.

Correlation of scores with age groups in the general population indicated that 46%

of the men who were age 35 or under at the time of the accident had regressive scores, as compared with 86% of those who were age 36 or over at that time. It is to be noted also that the larger negative scores, which reflect the greater degree of psychological deterioration were found more frequently in the older age bracket than in the younger. For example, the largest negative score recorded for those who were age 35 or under was -7, while for those who were age 36 or over, the largest negative score recorded was -12.

Studies, which need not be detailed here, were undertaken to establish the relationship between the pre-accident factors of 1. Education; 2. Marital status; and 3. Military combat and/or wartime Merchant Marine service. They indicated that regardless of educational level, marital status (with or without children), and regardless of whether or not the patients had seen combat duty in military service or wartime Merchant Marine service, there was a greater concentration of regressive scores, and larger individual regressive scores, among the men who were age 36 or over at the time of the accident than among those who were age 35 or under. It is difficult to escape the impression that age, in this study, represented a more significant determinant of psychological deterioration than any of the above three factors.

The relationship between the psychological scores and the post-employment status is somewhat more complicated and not always entirely clear. The group of 4 men (see Table 4) who never returned to sea showed no regressive scores. As a matter of fact, 3 showed progressive scores, one had a plus 14, the highest positive score, and one a zero score. Two factors might be operative here. One is age, since all 4 were 35 or under. The other is the very fact of distance from the psychological risks implied in returning to sea.

It was noted that the highest incidence of regression appeared in the group of 12 men who returned to sea, but were forced to leave it, and in the group of 6 men who returned to sea, but were able to work only sporadically (see Table 4). The significance of this relationship is unclear. It is a fact that the older men returned to sea in larger numbers than the younger men, probably

because the sea constituted the one trade they knew, and they felt they were too old to change trades. The older men in this study, as indicated previously, appeared to be more prone to psychological deterioration than the younger. Age, therefore, may be an important factor in the high incidence of regression in these groups. Another explanation may lie in the fact that these men forced themselves to return to the sea they feared so strongly and suffered further psychological damage as a result.

Only slightly lower was the incidence of regression among the 12 men who were working at sea with reasonable regularity (see Table 4). Here again, most of these men were in the 36 or over age bracket, and the same reasoning applies. The fact that these men continued to work at sea in spite of their psychological damage may be related to certain complex factors of motivation, including the compelling one of financial need.

DISCUSSION

One objective of this study was to derive from the data some useful theoretical formulations with regard to the short term and long term psychological effects of sudden life-endangering trauma. The very nature of the material presented here precludes any intimate knowledge of the individual psychodynamic factors involved, and no detailed psychodynamic formulation will be attempted. Certain conclusions do appear to derive from the data. Limited though their education was, and granting that as a group these men were not particularly sensitive or intuitive, the fact remains that they were largely seasoned seamen, and that many had considerable tanker experience. Also, in the manner of seamen, they had formed a close attachment to life on a ship. Yet, neither intellectual awareness of the potential dangers they faced, particularly in terms of explosions, nor emotional attachment to the sea was sufficient to be of value to these men when catastrophe overtook them. One must wonder what prevented prior knowledge from being of protective value. It appears that repeated performance of a dangerous occupation dulls the capacity for anticipation, fearful or otherwise, of disaster. Riding in

an automobile on a modern highway is a case in point. Familiarity apparently breeds in the organism a loss of the capacity to defend itself.

Anticipatory anxiety, even if momentary, permits mobilization of resources. But such anxiety becomes inoperative when realistically dangerous situations seem safe because of repeated exposures without concomitant injury. When injury does occur, the victim is unprepared to cope with the resultant alterations of self.

When these men, accustomed as they were to discipline and direction, were left leaderless by the death of all the ship's deck officers, panic might well have been expected to develop. But perversely, the men did not panic. After an initial period of confusion, they conducted themselves with considerable competence. The reasons for the failure of panic to develop are not entirely clear. It should be noted that seamen are required to participate regularly in fire and abandon-ship drills.⁵ The repetitive nature of the drills may have served to permit relatively automatic functioning without panic. On the other hand, one may speculate that the situation was so sudden and so overwhelming as to paralyze the ability of the ego to react. Furthermore, the urgent reality demands may have forced the utilization of all available energy in the service of survival.

The short term effects of this disaster were in the majority of cases appropriate to the circumstances. The salient phenomenon reported here is the severity of the long term reactions. These men were unable either to repress their feelings, or to work through them. Indeed, the anxiety seemed to reverberate constantly so that it became gradually worse rather than better over the period studied. This was particularly true of the older men, those, unfortunately, whose economic need to return to sea was most compelling. Thus they continuously re-exposed themselves to the dangers which had proved so damaging. The knowledge that "it had happened" generated and perpetuated the fear that "it will happen."

A potential danger which has been dis-

missed lightly or ignored before conversion to actuality subsequently appears constant and terrifying. Repression does not appear possible. This same failure of repression has been noted by the authors among survivors of the Nazi concentration camps. If repression does not occur in a reasonable time, the prognosis is poor, since past danger is constantly perceived as a current peril.

Another, though somewhat overlapping, objective of this study was to derive from the data support for earlier hypotheses of the authors (10-12). They have maintained that the nature of the accident (and particularly its suddenness, which gives the ego no time to prepare its defenses) is a more significant determinant of the post-traumatic states than the pre-accident personality. If the nature of the accident be regarded as involving both a change in the external environment and a change in the internal environment, then the nature of this disaster may be considered essentially the same for all survivors. Certainly all were subjected to the same sudden shift from a safe situation to a dangerous one; the individual circumstances differed only minimally in terms of personal injury and loss of personal property, and were identical as regards loss of leadership. Thus, it is reasonably accurate to state that the nature of the accident was a constant factor. Yet these men differed greatly in all background factors except service at sea. Even their education, limited as it was for the group as a whole, varied considerably within these limitations. But as the long term examinations proceeded, the almost monotonous similarity of the psychological patterns was striking. Despite little or no contact with each other, the men told stories so much alike they appeared almost to have been rehearsed simultaneously. The conclusion is almost inescapable that the common factor here is the accident itself.

The data derived from this study seem to support another prior hypothesis: that psychological damage incurred in life-threatening trauma, if untreated, tends to grow worse with time. As noted earlier, these men received no systematic interim psychotherapy. Conversely, the authors' experience in other cases supports their hy-

⁵ Title 46, Code of Federal Regulations, Section 167, 65.

pothesis that such damage is mitigated by appropriate psychotherapy. Other writers, including Courville(13), Merrill(14), Müller and Naumann(15), and Cobb and Lindemann(1), also affirm this view.

The authors have maintained that litigation and compensation worries are not basic factors, either on the conscious or the unconscious level, in producing post-traumatic psychological damage. As stated previously, these patients were assured more realistic compensation than is usual in civilian practice. It should be noted, likewise, that many of those who abandoned the sea took up less remunerative and less prestigious occupations; that to most of them the sea represented a way of life as well as a means of earning a living. Yet, without the prime factor of monetary gain, these men exhibited psychological damage patterns comparable to those so often described as litigation anxiety, compensation neurosis, and in other pejorative terms.

The authors feel that the psychiatric community as a whole has failed to recognize the significance of the nature of the accident itself, and particularly its suddenness, in the development of the post-traumatic states. For reasons not entirely clear, it appears more usual to regard the pre-accident personality as a major factor, and to relegate the accident itself to the role of a mere triggering circumstance which sets off an illness considered almost certain to have occurred in any case. This approach discards the tremendous potential, from both the treatment and the research standpoint, which is available if one instead regards the post-traumatic psychological states as diagnostic categories in themselves. Most frequently, these states are best categorized as post-traumatic neuroses; occasionally, one must use the category of the post-traumatic psychoses. These categories are unique in the cognizance they give to the role of the accident itself in producing a discrete illness, which, in all likelihood, would not have occurred had there been no accident.

By their acceptance of such discreteness, these categories recognize that crisis is not amenable to the usual coping techniques. Caplan(16) states that crises per se usually last no longer than 4 to 6 weeks, and clinical

experience substantiates this. However, when all coping techniques have been paralyzed, the only solution becomes regression. In the cases reported here, even regression, because of the fear of repetition of the overwhelmingly dangerously perceived accident, does not snuff out the fire of anxiety.

The important question here, from the psychiatric standpoint, is why the normal coping techniques are inoperative. The psychiatric community will not find out by dismissing the accident as merely an incidental factor. Nor can it adequately treat the post-traumatic psychiatric casualty unless it finds out first what this accident in itself meant to this individual; unless it regards the post-traumatic psychological state as a separate entity which represents the failure of this individual's mechanisms for defending himself.

Historically, prejudices have existed in some segments of the legal community which have clouded the unbiased evaluation of the post-traumatic psychological states. In view of the special interests involved, it is difficult to see how they can be dispelled. However, it is to be hoped that the psychiatric community, through enlightened treatment, research, and the maintenance of an objective and disinterested position, will help to better the lot of the much misunderstood and much maligned victim of post-traumatic psychological damage.

SUMMARY

This study reports the immediate psychological effects of a maritime explosion on 36 survivors, and the long term effects on 34 who were seen 3½ to 4½ years later. All were experienced seamen. The circumstances of the accident were virtually identical for all. None received any systematic interim psychotherapy. All were guaranteed realistic compensation. Immediate effects in the majority of cases were appropriate to the circumstances, but long term investigation indicated appreciable deterioration in 71%, most frequent and most marked in the age group 36 and over. The long term psychological pictures were strikingly similar for all subjects.

It was formulated from the data that repeated exposure to a potential danger

apparently deprives the organism of its capacity to defend itself; when the danger has been converted to an actuality, it subsequently is perceived as a constant peril which is not amenable to repression, and the resultant reverberating anxiety accounts for the severity of the long term reactions.

The data also supported the authors' previously stated hypotheses that the nature of the accident itself is a more significant determinant of post-traumatic psychological illness than the pre-accident personality; that such illness, if untreated, tends to worsen with time; and that litigation worries are a minor factor in producing the illness.

It is suggested that the post-traumatic psychological states be considered diagnostic categories in themselves. This approach, because it shifts emphasis from the pre-accident personality to the accident itself, and recognizes that post-traumatic psychological damage is a discrete illness representing the failure of the individual's defense mechanisms, will best serve understanding and treatment of that illness.

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CHILD-PARENT SEPARATION AS A THERAPEUTIC PROCEDURE¹

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There are limitations upon the usefulness of psychotherapy. Even if it were established that when it is correctly applied, it is always effective, it is doubtful whether it can always be utilised because of the lack of opportunity or the facilities. However, the child is in an emotional environment which affects him, for good or ill, every moment of the day. It can be overlooked that when denied the opportunity to employ psychotherapy to help child or parent, it is often possible to change this emotional environment so that at least relief is given to the child and, under favourable conditions, even recuperation follows. An adverse emotional climate for children is often the product of emotionally handicapped parents. To bring about a change in this climate will, sometimes, involve making a break in the physical link between the child and the parents.

Prevalent opinion, however, tends to be against using separation procedures as therapy. A statement in an authoritative publication by the British Ministry of Health (1), which was written to encourage the family doctor to take an interest in the Mental Health Services, gives the following warning: "On the purely psychological side there is evidence that separation from the parent, or parent substitute before the age of five may have serious effect on the emotional growth of children and may form the basis of neurotic reactions in later life."

In this statement two postulates are implied: 1. That child-parent separation is always harmful under the age of five and causes the child to lack the ingredients essential for its emotional growth, *i.e.*, separation is synonymous with deprivation of the right care; 2. That separation experiences may lead to mental ill-health later on.

Faced with this and similar statements,

there is a reluctance to use separation procedures, and indeed great efforts are made to maintain children with their parents, whatever the cost to the children.

Responsible authorities still often support the adage that "A bad natural home is better than any other home." This point of view fails to distinguish between parents themselves and the quality of child care or parenting (mothering and fathering) which they may or may not be able to provide. It also assumes that physical separation of the child from its parent must lead to a deprivation of proper care, thus regarding separation and deprivation as synonymous.

The object of this paper is to show that the above point of view is not well founded. The belief that separation and deprivation are synonymous is fallacious, and it has led to ill-defined postulates being formulated, which in turn have nullified investigation. Furthermore, there is no investigation that conclusively demonstrates that separation experiences are one of the prime causes of mental ill-health. The view expressed here is that the circumstances attending the separation are the most important factor in determining whether or not the child is deprived of the right care, rather than the separation itself. The right care for a child can sometimes be most advantageously supplied apart from the parents, and some of the ways by which this can be arranged will be described.

Definitions. Much of the confusion about "separation" and "deprivation" springs from the fact that the two words are used interdependently, and it would seem to be essential to have a clear definition of each.

"Separation" of child and parent, by common usage, means that the child is physically apart from its parents.

"Deprivation" is a term which indicates that a loss is suffered and when applied to the child it is used in the following two senses: 1. When the child suffers the *loss of its parent*, or permanent parent substitute. This denotes physical separation of parent

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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and child. To prevent confusion with the term "separation," this usage should be avoided. 2. When the child is deprived of the necessary care for its emotional growth, and so suffers the *loss of parenting*, i.e., qualities including love, affection and security. This form of deprivation can occur with the parent, or apart from the parent.

"Separation," then, involves the physical loss of the parent. "Deprivation" involves the loss of parenting normally, but not necessarily, supplied by parents. Thus the quality offered to the child, parenting, is differentiated from the object, parent, which offers it. To illustrate, one element in parenting, namely mothering, is often found in the natural mother, but it may be absent, or it may be found in another female figure. It may well be that it is more important for a child to have *a* mother than *the* mother.

Investigations. The confusion caused by lack of definition of terms will be illustrated by referring to the contribution of two distinguished researchers in this field.

Amongst other fundamental issues appertaining to the infant and mother, Bowlby, our leading investigator in the United Kingdom, has paid attention to the effects of separation. His first investigation concerned the high incidence of separation experiences in a group of 44 juvenile thieves, and this high incidence, Bowlby(2) maintained, had a casual connection with their disturbance. However, less attention was paid to the possible effects of the deprivation of the right care. From the case histories it appears that both before and after the separation experience these children suffered a loss of the right kind of care. This investigation did not eliminate the variable of deprivation, and it would seem difficult therefore to draw valid conclusions about the effect of separation per se. It will also be noticed that those children whose experience of separation was a happy one would be unlikely to attend Bowlby's clinic and therefore unlikely to be included in the investigation.

His second and larger investigation entitled "The Effects of Mother-Child Separation"(3), compared a group of sanatorium children with a control group of school children. In 5 of 28 items on a teacher report form, the sanatorium children showed

traits which indicated maladjustment. The differences were not as great as had been expected. The limited positive findings of the investigation, however, appear to be nullified by the fact that the effects said to be due to the separation alone cannot be distinguished from those effects due to other factors, such as deprivation of the right care in a sanatorium. The lack of definition of the concepts employed may have resulted in the defective formulation of the investigation. Although the investigation, as the title states, is concerned with separation, the use of this term and of the word "deprived" are ambiguous as, for example, in a paragraph that contains "children who for any reason are deprived of the continuous care and attention of a mother," and the use in the same paragraph of "deprived" to mean physical separation.

In a more recent paper(4), it is apparent that Bowlby still does not find it necessary to differentiate between separation and deprivation. "For many of the cases in which there has been no episode of actual separation . . . there is often evidence that there has, nevertheless, been separation of another and more or less serious kind. Rejection, loss of love . . . and similar situations all have a common factor—loss by the child of a parent to love and to attach himself to. If the concept of loss of object is extended to cover loss of love these cases no longer constituted exceptions." It would seem unwarranted to mix quite different elements of experience, namely, loss of object and loss of love, in this way. One is separation experience, from the object, parent, the other is a deprivation of the quality of love, according to the normal usage of the terms.

Goldfarb's work(5) has sometimes been quoted as showing the ill-effects of separation. However, his main studies have been comparisons between groups of separated children. He has shown conclusively that separated children flourish according to the quality of care they are given following the separation. In one separation situation they may be deprived of adequate care, as for example, in an institution, whilst in another situation, for example, a foster-home, the care may be adequate. He has shown how children removed from the first situation will improve when placed in the second.

His work would appear to demonstrate that the heart of the matter is not the mere fact of the child being separated from its parents, but whether or not the child is deprived of the right care.

Investigations which attempt to show that mental ill-health springs from separation experiences in childhood have been reviewed by Gregory (6), and treated by him with caution. These are no more satisfactory in making a distinction between separation and the other variables that may be responsible for the changes noted. These variables include traumatic experiences before separation, traumatic experiences resulting from separation, traumatic experiences between the time of separation experience and the investigation.

Another Investigation. Statements made about effects of separation experiences were so contrary to our clinical work that some years ago an investigation (7-9) was undertaken to test some of the formulations.

A group of emotionally disturbed children and a control group of healthy children were compared with respect to their separation experiences when under 5 years of age. Every separation experience which lasted 24 hours or longer in both groups was recorded. The information was collected shortly after the child's fifth birthday while the parents' memory was likely to be accurate. The first 5 years were investigated, as the protagonists of the separation viewpoint regard this as the most vulnerable age-group.

The findings showed that the pattern of separation experiences was strikingly similar in the two groups. It was also shown that the incidence of separation in the two groups was equally low, since among 74 children there was only 1 separation lasting more than 1 month during the first year and only 5, lasting 3 days. In both groups, two-thirds of the children under 2 years of age had not been separated from their mothers for more than 2 days. It was concluded that although separation may at the time cause upset to the child, it does not, in most cases, lead to mental ill-health.

The two groups were also compared for the effects of separation due to hospital care and to non-hospital care. Under hos-

pital care, there were 26 of 92 occasions of separation and the majority of these appeared harmful to the children. With non-hospital care there were 62 of 92 occasions of separation, and only a minority of these proved harmful. These findings suggest that the conditions applying before, during, and after the separation are more important in determining whether or not there will be harmful effects than the fact of separation in itself. The quality of the care received rather than the separation is the really important factor. Separation is not synonymous with deprivation.

As a result of the investigation and our clinical experience we now have sufficient confidence to concentrate on removing deprivation when it occurs whether in the presence or absence of the parents. When deprivation was caused by the parents, we formulated ways by which separation could be utilised to reduce trauma, but, of course, we applied the safeguard that separation must not be allowed to cause deprivation; separation must supply what is lacking in the parents' care.

THERAPEUTIC USES OF SEPARATION

Before turning to the therapeutic use of separation, it may be as well to draw attention to its *prophylactic* value. Short periods of separation for children under the care of familiar friends, relatives, or neighbours assures the child that living with strangers need not be unpleasant and that the parents can be relied upon to reappear after being away from them for a short time. Such children, of course, accept more readily unexpected periods of separation from the parents, like those due to admission to hospital. So widespread and exaggerated has been the propaganda about the dangers of separation, that many parents are now fearful of leaving their children under any circumstances, for however short a period. This amounts to a virtual enslavement of the parents and brings an artificiality to the lives of both parents and children. A new syndrome is upon us, anxiety about "separation anxiety."

Either complete or partial separation can be utilised therapeutically.

The most *complete* separation is the assumption of parental rights by another

family. Less complete, simply because it can be reversed more easily, is the placement of a child in a foster-home. Another less complete separation procedure is the use of hostels for maladjusted children. These hostels provide a great intensity of contact between staff and children, do not undertake schooling facilities themselves and tend to have short holiday periods. They are therefore particularly valuable when a great intensity of parental care is required. Special boarding schools again involve a complete separation from the parents. Here schooling facilities and parental care are supplied under the same roof. They sometimes suffer the disadvantage of being educationally orientated and of having long holidays. Inpatient care, in a psychiatric ward for children, involves not only the application of diagnostic and therapeutic procedures within the ward, but also separation from the family. Usually children admitted to inpatient units have a degree of disturbance which is beyond the therapeutic facilities of the agencies previously mentioned.

Partial separation procedures allow the child to live at home, but they arrange his life in such a way that there is a minimum of contact between the disturbed parents and himself. This can be organised within the home by the use of a home-help to look after the children, while both parents go out to work, or in wealthier families by employing a nanny for the children. Mothers, however, must be guided not to select a nanny in their own image. A partial break between parents and children can also be effected by measures which allow others to give special care to the child, outside the home, during the day. These facilities include day foster care, nursery schools for maladjusted children, day schools for maladjusted children, day hospitals and therapeutic clubs. More detail will be given about the use of day foster care and of therapeutic clubs.

Day foster care(10) is the planned, temporary separation of an emotionally deprived child from his parents during the day, in order to supply him with the right emotional care. This can be effected in at least three ways. First, the attendance of the child at a special day nursery whose staff

are carefully selected for their ability to supply the positive parenting which is absent from the home. During the separation the child is, at it were, in a power house of affection. The second method is to arrange for the child to stay during the day in a selected foster home. A third way is for a small number of mothers to band together to form a nursery club, whereby for one day a week, each mother in turn looks after all the children. Such groups are very helpful, but they should not have more than one or two disturbed children within them.

Therapeutic clubs supply positive emotional care for children during those hours after school when the child would otherwise be in a hostile and negative emotional climate. They supply similar care during week-ends and the long holiday periods. Their principal condition of membership is that the child is very difficult and unacceptable to orthodox clubs. The clubs actively create warm relationships between their staff and the children and the staff encourage the children to accept parenting. A high ratio of staff to children is required. Club activities are planned to bring staff and children continuously together by the employment of creative endeavours.

It will be apparent that an essential condition of success in all these procedures is the *selection* of the right staff. In outlining the qualities required in such staff, it is possible to do no better than to turn to history. Modern life does not have a monopoly of wisdom; science often amounts to nothing more than systemising a rediscovered truth. Thomas Phaïre(11) in the first English book on paediatrics in 1545 advised as follows in the selection of a wet nurse :

Ye must be well aduised in takyng of a nource, not of ill complexion and of worse maners : but suche as shalbe sobre, honeste and chaste, well fourmed, amyable and chearfull, so that she may accustome the infant vnto mirth, no dronkarde, vicious nor sluttyshe, for suche corrupteth the nature of the chylde.

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PSYCHOTIC MOTHERS AND THEIR CHILDREN : JOINT ADMISSION TO AN ADULT PSYCHIATRIC HOSPITAL¹

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Mental hospitals in many parts of the world have become involved in a dramatic change, in both philosophy and practice, toward a more humanitarian view of emotional disorders and their treatment. We are now increasingly aware of the importance of the social and psychological context within which people develop and recover from behavior disturbances.

For the adult in our society, the major elements in this environment are those of family and of work. Hospitals have made great strides in providing patients with opportunities to maintain or regain contact with work and family. Sheltered workshops, hospital industries, part-time out-placement and group discussions of work experiences have become widespread. Similarly, families are brought into closer contact with the patient and the hospital by means of group and individual psychotherapy or casework, improved visiting arrangements, and day care programs which permit the patient to return to his home and family at night and on weekends. These developments appear to be effective because the patient has the opportunity to discuss his life experiences in a supportive and therapeutic relationship. He can learn and test out new ways of behaving in situations which are of enduring importance to him.

In the case of the young mother, her family is her work. However, as a matter of course, mothers requiring hospitalization for mental illness have been separated from their infants and young children. This practice is based upon three principal considerations : 1. *The responsibilities of the hospital.* It is believed that an adult mental hospital is an unsuitable place for a child. It is assumed that special staff and facilities would be required, that the child's presence would be extremely disruptive to other patients, and that it would be impossible to protect

the child from psychological or physical dangers. 2. *The therapeutic needs of the mother.* It is generally held that the mother with a so-called "post-partum" psychosis or other severe emotional disturbance must be free of the responsibility of caring for her child, who may be perceived as the source of her difficulties and is often the object of hostile and destructive wishes. 3. *The effects of a psychotic mother upon the child.* This is a more long-range concern which implies that the mother-child relationship may be adversely influenced by the mother's disturbance, leading to undesirable effects upon the personality of the child.

Recent reports from England, however, raise serious questions concerning the validity of these views. Douglas(1) in 1956 observed that mothers with post-partum psychotic reactions were not likely to relapse if they were given an opportunity to care for their babies in the hospital. This report of 6 patients treated successfully on the "neurosis ward" of the West Middlesex Hospital illustrates dramatically the effectiveness of permitting the mother to assume increasing responsibility for the child in the context of psychotherapeutic and institutional support. The work of Main(2) suggests that it is similarly beneficial for mothers with neurotic depression to have their children with them in the hospital. More recently there have been several such admissions to the McLean Hospital(3).

Encouraged by these reports, we began in the fall of 1960 to admit infants and young children to the adult wards of the Massachusetts Mental Health Center, where they have been cared for by their psychotic mothers. Our first case, which has been reported elsewhere(4), proceeded with success. Much was learned about the problems engendered by such joint admissions and how to deal with them. As a result of this initial experience, we admitted 11 other mother-child pairs over the next year. The ages of the children at the time of admission ranged from 1 to 18 months, and they have

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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remained in the hospital for as long as 9 months.

In this paper we shall first summarize briefly several of these cases and discuss the management of various administrative and therapeutic problems. We shall then attempt to clarify some of the complex issues involved and to suggest certain tentative guides to the selection of suitable patients.

Case Summaries

The first mother was a 22-year-old woman who had given birth on the day of her graduation from college. She was extremely disappointed that she could not pursue graduate studies as planned, and felt guilty because she saw herself as an inadequate mother who was unable to love her infant son. She gradually became increasingly depressed and withdrawn and developed ideas of reference during the next year. After a 2-month period in another hospital she was admitted to the Massachusetts Mental Health Center with the diagnosis of schizophrenia. She seemed to make little progress in her first 2 months maintaining that she had little feeling for her son, now 14 months old, and thought that he could be cared for better by his father and a nurse at home. It occurred to us that having her son at home increased her feelings of guilt and gave her the opportunity to avoid the feelings which would arise if she had to care for him herself. Therefore, we suggested to her that if she cared for him in the hospital, she could then work more directly in therapy on her difficulties in learning to be a mother. She found the idea appealing, and although she raised many practical objections decided it was worth trying.

The ward staff knew the patient well and had had ample time to prepare for the baby and discuss their own feelings about caring for the first child in the hospital. The patient had working relationships both with her therapist and her administrator, who had training in pediatrics and child psychiatry. She therefore felt, as we did, that her needs as well as those of the baby would be considered. In addition, her husband, who was very competitive with his wife, sought psychotherapy for himself. The patient changed rapidly upon the baby's arrival. Almost at once she began to express both angry and pleasurable feelings toward him, as well as toward her husband. With the support of the staff and a positive response from her son, she came to feel much more secure as a mother. She was discharged much

improved 2 months later, and on our last follow-up was doing well and expecting a second child.

The next case is that of a 22-year-old woman in a confused and deluded state, admitted from another hospital where she had been violent and uncommunicative. Because of our enthusiasm about the success of our first case, she was told that we would expect her to care for her 3-week-old child in the hospital as soon as possible. She seemed to improve almost immediately, and the baby joined her on the ward within the week. However, over the next month she became increasingly helpless and mute. The staff, her husband and her mother were alarmed over the quality of her care for the child, and during her therapist's vacation, the baby was sent home. She remained in the hospital, soon resumed therapy, and gradually improved so that after another 2 months she wanted her baby with her again. This time the patient resumed caring for the child and did so with increasing competence and pleasure. She was discharged improved 2 months later.

It is clear that when the patient agreed initially to care for the baby in the hospital, it was not her own decision but primarily a result of our enthusiasm and urging. Because this had occurred so early in the hospitalization, the patient had not yet formed a good relationship with anyone on the staff with whom she could share her feelings about the admission of the child. It is our impression that the second admission was more successful because she made the decision herself and also because she now had a working relationship with her physician.

Certain other features of this case are worthy of comment. The patient's husband and mother were seen by a staff psychiatrist and a social worker respectively. The husband was under much strain because his family disapproved of the marriage, and the mother had the responsibility of caring for the baby when the patient could not. Without these continuing relationships with the hospital, the patient's family would have had no direct channel for communicating their concerns about the first admission, and it is unlikely that they would have permitted her to bring her child back again.

The nurses were under considerable pressure the first time the baby came in because of the patient's inability to care for

it, and the second time because of a brief period of manic hyperactivity when the patient avoided the baby. Without regular staff consultations, these emotionally trying periods could not have been weathered. It was necessary to share impressions of the patient, thoughts as to the reasons for her behavior, and suggestions for helping her. Our difficulties were increased when we failed to work sufficiently closely as a team.

Our third case illustrates other types of joint-admission difficulties.

A 24-year-old married woman became depressed following the birth of her first child, a son. She had strong masculine strivings and had been successful as a gymnastic teacher. However, she had experienced many losses, including the death of her father and several siblings in childhood before her marriage, and she had been severely depressed at these times. Just prior to her admission she made a serious suicidal attempt by taking an overdose of barbiturates. After an evaluation period, she asked to have her 6-month-old child join her and they spent some time on the day program. Soon she became increasingly depressed and required rehospitalization. She then went through a very stormy period which she attempted suicide again by taking 14 Seconal capsules. She often said that her child was the only good thing in her life, and all who came in contact with her, including the nurses and other patients, agreed that her care of the baby was excellent and that it was her "link to life." She gradually improved with intensive psychotherapy and came to feel better about herself and happier in her marriage.

It was clear that the physicians in charge had to have close contact with the ward staff in order to obtain accurate information about the patient and to deal with staff feelings. A therapeutic-administrative split with very firm management was also of great importance. It may be wondered what would have occurred in this case if the baby had been with its grandmother 1700 miles away, as the family had suggested, and how the patient would have felt if we had indicated by our agreement that we concurred with her belief that she was an unfit mother. She herself said, "If the baby had been away, I wouldn't have had a chance to develop positive feelings for him. I wanted to love him but couldn't, and I felt

very guilty since I did not feel what I was supposed to."

DISCUSSION

In the foregoing brief case summaries we have attempted to convey how we approached our first experiences with joint admissions. Earlier in the paper we indicated that three major considerations are involved in the traditional practice of separating children from their hospitalized psychotic mothers: 1. The responsibilities of the hospital; 2. The therapeutic needs of the mother; and 3. The effects of a psychotic mother upon the child. Drawing upon our first 12 cases, we may now turn to a general discussion of these significant issues.

Our cases substantiate the reports of Douglas and Main(1, 2). It thus appears that in quite different kinds of hospitals even seriously disturbed women can care for their children successfully. It is important that the decision to bring the child to the hospital be concurred in by the patient, without coercion. Members of the immediate family, such as the patient's husband and mother, must be included in the discussion and planning. The hospital staff needs them as informants in completing its evaluation. They are customarily bearing the burden of the child's care at this point, and their feelings about relinquishing—or not relinquishing—this burden to the hospitalized mother will have continuing implications for the success of the joint admission and the mother's recovery.

Only 1 of our first 12 mothers brought her child with her on admission—and that one instance was not anticipated. In all the other cases there was an initial period of careful evaluation, planning and decision making which varied in length from several days to 4 months. During this period the patient begins to adapt to the hospital and to develop a relationship with her therapist and other members of the staff. We have tried to bring in the child when the mother is able to assume some of the responsibility for it and to accept help from the staff when she needs it. No matter how disturbed the mother may be in other areas, we have found that if she is able to participate actively and responsibly in the decision to

have the child come to the hospital, only rarely will she be unable to care for it adequately.

Careful evaluation by the staff acts not only as a check on a sick mother's unwarranted belief that she may be ready to care for her child; it also gives the staff an opportunity to get to know her, before the child arrives, so that they may respond appropriately to her needs and feel comfortable with her caring for the child. The attitudes of the ward personnel are the single most important consideration in attempting a joint admission. The staff must be brought into the venture from the beginning, with much support and sharing of information and feelings. Frequent consultation is mandatory, particularly when there has been little experience with joint admissions. Not only the attitudes of the nurses and attendants but the timing and quality of their interventions are critical factors in determining how well the mother will be supported in her effort to care for her child. They may tend either to take over functions which the patient is able to manage for herself or to leave her entirely to her own devices. The nurses must be concerned not only with the welfare of the patient and the welfare of the child but must share the philosophy that helping the mother to assume this responsibility is therapeutic. Much remains to be learned about teaching the staff when and how to be supportive, to act as resource people or as temporary substitutes (4).

Both the staff and the patients find it hard to imagine that children can live on a mental hospital ward without being endangered or causing impossible inconvenience to all; yet such is the case. When we interviewed the staff and patients on the first ward to admit a baby, we found that their initial feelings of apprehension, envy, and fear for the safety of the child were widespread and strong (5). Although these feelings persisted in some cases, many had changed their views, and the child had come to be an accepted part of ward life. Those patients who had the most destructive feelings and fantasies tended to avoid the baby. Most of the other patients felt that the child's presence was pleasant, and that it encouraged them to respond appropriately.

This is not to say that a baby can be cared for on any ward any place. The ward must be so arranged that a single room is available for the mother and child or the normal ward life will become too disrupted and the patients will come to resent the intrusion. We have also found that some mothers like to have periods of privacy with their children. One mother in our day hospital, which has neither beds nor private rooms, expressed it this way: "Out on the ward, I'm not free to choose how I want to respond . . . if she rushes over to me immediately looks at me or mothering in her . . . you can't do your own thing to cooking public all the time." Access to cooking facilities and a refrigerator are also useful. Most of the other equipment can be brought in by the family.

Medical responsibility for the baby is best delegated to a physician other than the patient's therapist, in order that the baby's needs may be viewed objectively. The staff serves to reduce the anxiety of the mother about the welfare of the baby, and it leaves the mother's therapist free to work with the patient.

Joint admission will usually be successful if 1. There has been a careful preliminary evaluation of the mother and the nature of her illness; 2. A working relationship has been established with her physician and the ward staff; 3. There has been a mutual decision to admit the baby by the staff, the patient, and her family; and 4. There is adequate provision for the physical needs of the child.

A natural reaction to the idea of admitting babies and young children to our adult psychiatric wards is one of grave concern regarding the physical and psychological dangers to the child. The question is of prime significance; we are now engaged in developing methods for the long range investigation of such effects, if indeed it is possible to isolate them. However, our experience with 12 cases has been immensely reassuring. Although many patients play with and baby-sit for the children, there has been not one instance of physical threat, nor is there any overt evidence of immediate psychological harm.

We may now ask whether the mother's recovery from a psychotic reaction depends,

as is often assumed, upon her being separated from her child. The cases we have seen lend very little support to this view. On the other hand, if taking responsibility for the child does not hinder the treatment process, is there any evidence that it makes a positive therapeutic contribution? We have the impression that this has been true in some of our cases, but a clinical impression is not necessarily a fact, even though it is in accord with the laudable aim of keeping mother and child together.

In attempting to understand the different responses of our patients, it should be emphasized that psychotic reactions in the postpartum period do not comprise a single, homogeneous clinical entity. They appear to vary with regard to 1. The prepsychotic personality and developmental history of the patient; 2. The nature and time of onset of the symptoms; 3. The degree to which pregnancy, childbirth and motherhood have been crucial aspects of the precipitating stress; and 4. The course of illness and the response to treatment.

Our preliminary clinical assessment on the first 12 cases suggests that these women may be divided into three somewhat overlapping groups:

1. The patients in the first group have a history of reasonably successful prepsychotic adaptation, particularly at work and school. They appear to come from intact families with whom they retain close ties. Strong masculine strivings and serious conflicts over femininity are prominent. These women tend to become disturbed during the pregnancy, although they may not be psychotic and in need of hospitalization until months after the delivery. The child is usually their first, and they almost always report that they would like to love the child and feel guilty that they cannot. Caring for the child in the hospital helps these mothers to come to terms with their hostility toward it, lessens the guilt aroused by abdicating this responsibility, and offers them the opportunity to develop positive feelings for the child in a neutral and supportive milieu. The joint admission seems particularly useful in these cases since it requires and allows the patient and the treatment to focus directly on the problems central to the illness. These women appear to have

the best prognosis for rapid recovery.

2. In the second group we have also noted essentially good prepsychotic adjustment, but here the principal feature appears to be an underlying sadi-masochistic need which may be manifested in both passive and rebellious relationships. These women come to the hospital complaining of the difficulty in caring for the child, often not their first child. It soon becomes clear, however, that the illness is primarily related to the struggle with their husbands and general dissatisfaction about their marriage. For these women, the opportunity to care for the child in the hospital may be welcomed as a support to their self-esteem as good mothers. The joint admission may be supportive but is not centrally involved in helping the patient with her problems; how she deals with these determines the hospital course.

3. Relatively poor prepsychotic adjustment, with chronic depression and/or psychotic periods, characterizes the third group. They come to the hospital because of the exacerbation of these long standing problems. Their histories often indicate deprivation and abusive treatment in childhood, and their strong needs to be taken care of leave them with little to give their children. Joint admission in these cases has not worked out well, because the child constitutes an additional demand upon an already overburdened mother. Needless to say, these are among the most difficult patients to help with any therapeutic approach.

The last question we should like to raise concerns the effects of the mother's acute psychotic illness upon the child's emotional development. It is our clinical impression that the children on our wards were not harmed by their psychotic mothers, who were, of course, helped by the staff when necessary. However, this impression deals with only a small part of the question; obviously, there are long range implications which must be investigated. It is clear that there are many emotionally disturbed mothers in the community, and that psychotic women with varying degrees of recovery and disability are routinely discharged and return to care for their children at home. The significant issue seems to be this: Will

the long term interests of both the patient and her child be better served by temporary or permanent separation, or by therapeutic assistance to the patient as she functions in her role as a mother?

At present, little is known about the relationship between psychosis and the quality of mothering. Women who are or who have been psychotic may or may not have enduring characteristics which determine how they function as mothers. In one of the few research contributions to this problem, Sobel (6) has recently reported on the children of 8 couples of which *both* mother and father had been hospitalized and diagnosed as schizophrenic. Upon discharge, half of these parents resumed care of their children, while the children of the other couples continued in foster home placement. Sobel observed less satisfactory adjustment of those children who returned to their natural parents. As far as we can determine, however, hospitalization provided these patients with little or no therapeutic opportunity to deal directly with the emotional problems of parenthood. Up to the present time, all but 2 of our mothers whose children had been in the hospital with them have been discharged and returned home. Their effectiveness in resuming full responsibility and their continuing emotional growth appear to depend to a great extent upon what they were able to accomplish during their hospitalizations.

The psychological issues facing the mother and child at the various stages of early childhood have been delineated and discussed recently by Sander (7). He demonstrates how the child confronts the mother with age-specific problems which may re-arouse her unresolved difficulties from the past. At this juncture in her life the mother may be able to arrive at better solutions to these old problems, she may become further entrenched in her existing pattern of defenses, or she may even change in a less adaptive direction. Thus it seems likely that in some cases the emotional disorders of our patients are causally related to their inability to deal with specific issues raised by the development of their children. We are impressed with the unusual opportunity offered by the joint admission procedure to learn about the genesis and the treatment

of disorders of parenthood.

In cases where joint admission might seem appropriate, the practical alternatives must be evaluated in the light of available diagnostic and factual information. From the viewpoint of the child, whose needs vary with age, the effect of separation may be traumatic to a greater or lesser degree. An infant's needs can probably be met by a warm mother substitute, whereas a child beyond 6 months of age is more likely to experience separation from his *own* mother as a painful loss. On the other hand, older children are not so dependent upon their mothers alone, having begun to develop other sustaining emotional relationships and interests. It is of interest in this connection that none of our mothers has asked to have a child over the age of 2 years admitted.

From the point of view of the mother it is important to consider who will assume responsibility for the child in her absence, for she will have strong feelings toward the person who takes her place. A "devoted grandmother" is often regarded ambivalently by the patient, particularly when a poor or hostile relationship with her mother has been a lifelong pattern, and this may lead to feelings of guilt and inadequacy. In addition, it should be noted that close examination by social agencies of foster home placement indicates that it is increasingly difficult to find adequate mother substitutes.

Finally, there are the problems encountered by the mother and child when they resume life together. The child will have to leave the mother substitute and return to the care of his mother, whom he may hardly know. The mother must care for a child from whom she may feel estranged, and the "substitute" may continue as both the mother's support and her rival.

We must recognize that there are cases in which the mother's illness is so severe as to demand separation from her child. Our experience, however, leads us to suggest that the separation should not be for the duration of her hospitalization.

We are still far from adequately answering the question of how admission to an adult mental hospital and care by a psychotic mother affects the child, although our clinical impressions have been favorable. We are now engaged in a pilot study

to establish more precise indications for joint admission, to devise methods for the intensive and systematic observation of mother-child interaction, and to follow the children over an extended period.

SUMMARY

During the past year and a half 12 infants and young children have been cared for by their mothers on the adult wards of the Massachusetts Mental Health Center, in conjunction with the hospital treatment of these mothers for severe emotional disorders. This paper reports our experiences in the admission and management of these cases and discusses the implications of this procedure in terms of the responsibilities of the hospital, the therapeutic needs of the patient, and the effects upon the child of being cared for by a disturbed mother.

The following points have been particularly emphasized: 1. By arranging the joint admission, the hospital supports the patient in her role as a mother, whereas the usual practice of separation confirms her belief that she is harmful or destructive to the child. The staff provides information, structure, increasing responsibility, and non-

punitive models for identification—all of which tend to reduce her feelings of guilt and inadequacy. 2. In a protected setting, the patient can safely explore in treatment her hostile feelings as they arise in day-to-day interactions with the child. 3. Positive feelings toward the child are experienced by the mother and reinforced by the staff and other patients.

It is our experience that joint admissions are practical in selected cases, and that they may make a substantial contribution to the mother's recovery. They also present a unique opportunity for the study of difficulties in the mother-child relationship.

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NEW DIRECTIONS IN THE INPATIENT TREATMENT OF PSYCHOTIC CHILDREN IN A TRAINING CENTER¹

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The treatment of inpatient children at the University of Michigan Children's Psychiatric Hospital is provided within the framework of the usual university hospital model. The psychiatric resident is responsible for the psychotherapy and hospital management of each child with the assistance of a senior staff psychiatrist supervisor. The psychiatric resident is the leader of the team of personnel from the various services such as O.T., R.T., play school, remedial education, nursing, ward staff and other medical services such as pediatrics and neurology. Each of these services functions relatively autonomously administratively as well as in the training of their students and personnel, although they receive direction regarding the treatment of the individual children from the residents in charge of each case. This system provides a rich learning experience to trainees in all the inpatient services and has served as an effective therapeutic method in all diagnostic categories—except for those of early infantile autism and symbiotic child psychosis. We were far from satisfied with the treatment results of the first 8 such children treated in our unit.

In each of these 8 cases, several successive therapists received a wealth of experience and training. At the same time, trainees in O.T., R.T., nursing, psychology, and social work were able to have close contact with these children and their parents. The residents in psychiatry learned the potentialities and limitations of each of these services, and gradually became more capable of helping them within their frame of reference to understand their patient, but the children showed only minimal improvement.

Since we had decided that the most valuable type of inpatient unit from the training standpoint was one which con-

tained children of widely varying diagnostic types, including the childhood psychoses, and since we maintained strong commitments to providing optimal service even while primarily being a training center, we actively set out to explore and then remove whatever external obstacles were limiting our therapeutic progress with these psychotic children.

We were increasingly persuaded that the complexity of the multiple transferences of the patient and interlocking countertransferences of the therapist and other members of the team, much as indicated by Ekstein, *et al.* (9), required both further understanding and opportunities for constructive resolution; and that the impact of certain features of the training hospital setting had to be buffered for these children.

Progress of these cases in ego development of autistic and symbiotic psychotic children was found to be particularly heavily dependent upon the general attitudes and specific countertransferences of not merely the child's therapist, but the entire hospital staff. When the staff's initial enthusiasm and devotion is met with only the painfully slow progress of these children, their sporadic deep regressions, and minimal ability to return the love lavished upon them, it can readily give way to therapeutic pessimism, mutual withdrawal, boredom, reciprocal projections of blame for the child's lack of progress, and various undercurrents of countertransference reactions. Similarly the continual rotation of trainees and changes in staff, inevitable in a training center, are highly disruptive both to team functioning and particularly to these children who are so desperately needy of reliable objects.

To cope with these difficulties, a system was gradually evolved that provides continuity of staff, coordination of treatment program, continual stimulation and reinforcement of staff's therapeutic efforts, and which generally diminishes the likelihood of

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unchecked, malignant countertransference developments. This consists primarily of the use of multiple, long-term therapists, and regular group meetings for all personnel having close contact with these patients.

The first step in this new treatment program for autistic and symbiotic psychotic children was to make clear to all personnel that the next group of psychotic children to enter the hospital would be kept in the hospital for a prolonged period on an experimental basis and that a maximal effort would be made to utilize our resources for their improvement. Although it was deemed desirable to form a closely knit group of therapists representing each of the inpatient services in the manner of residential treatment such as exists at Hawthorne Cedar Knolls(2) and the Orthogenic School (5), this program was not imposed on the therapists of these psychotic children. Instead, each of the services themselves requested more assistance from therapists and supervisors, and often requested help from administrative sources to settle the differences of opinion between different services. It became clear that all persons involved in the treatment of these children desired more communication with one another, and needed more than customary support. Out of this evolved more frequent group meetings, and eventually a weekly meeting was set up both to discuss the numerous practical problems which developed in the treatment of these children and to share pertinent theoretical materials.

At first these regularly scheduled group meetings consisted of different members of the group reviewing literature followed by a discussion of the application of this material to our patients. Soon, hostile feelings of the staff toward the patients, and in a benign fashion toward each other, were expressed at first tentatively, and then freely. Although the inpatient director served as the leader of this group, he encouraged the formation of a group in which the group process fostered spontaneous communication and free discussion by individual members with the development of a "group ego." Recent comments by some of the group members have strongly attested both to the group's cohesion and the meaningfulness the group has come

to have for each of its members. Frequently, specific problems of treating or understanding the unusual behavior of these children are discussed and at times creatively solved by the staff group members spontaneously speaking out and building progressively on each other's ideas. But it is obvious that this is more than just a discussion group, its functions including a major therapeutic element. Actually, it fulfills the three criteria listed by Foulkes and Anthony(14) as necessary for group psychotherapy: 1) free floating discussion, 2) analysis of material, and 3) the handling of unconscious content. The uncovering, group acceptance and cathartic expression of negative feelings diminished negative countertransferences toward the patient as well as between the staff members, and allowed the staff members to become mutually supportive as they shared understanding of each other's efforts and sacrifices. But beyond such quasi-therapeutic functions, interest was constantly restimulated; mutual encouragement was provided; awareness of covert aspects of the children's progress was fostered; the staff was prepared for the children's inevitable regressions and plateaus and could view them with perspective; the group in general (and the senior staff members in particular) gave to the members some of the supplies these children are so notably incapable of even minimally returning to those who work with them; and careful group analysis of the children's more perplexing behavior prevented staff falling into the morass of misunderstanding so well described by Money-Kyrle(22). Intense staff countertransferences were reduced and ways discussed to manage and live with such feelings without grossly disrupting the relationship to the psychotic child. Additionally, in all the varied ways known to observers of group interaction, many previously invisible staff problems, antagonisms, competitiveness, therapeutic jealousies, sidetaking, rigidities, *etc.*, became manifestly apparent.

It was observed that in general the more staff energy invested and sustained in a child, the greater his progress. It is much easier for the therapist to invest freely in and substitutively "lend" the child his own ego when he is relieved of massive negative

feelings inevitably aroused by these patients' primitive behavior (*cf.*, 24), and when he is supported by a group with common interests and goals. Such a group can provide much more than individual supervisory sessions in the way of augmenting the total therapeutic effort for the patient.

The treatment of these children was essentially the same in all cases, incorporating Mahler's aims of developing an integrated body image and identity, establishing and advancing the level of object relationships, and the restoration or building of ego functions (20).

Clearly, extensive need gratification for these children was a vital element in their treatment (1), but the timing and dosage of frustrations was also of great import. As we gradually understood and more appropriately relieved ourselves of hostile feelings for these extremely demanding children, we also became more capable of proceeding guiltlessly to frustrate the children minimally where therapeutically appropriate, and objectively evaluate the results. Here it was clear that with the treatment of psychotic children much as has been noted in the field of normal child growth and development (13, 16), gradual frustration as well as gratification is essential to ego development. "Love" was not simply "not enough": at times it was too much. Similarly Weiland and Rudnik (23) describe a case in which they have pressed an autistic child without speech to use speech by frustrating him in gradual doses until he would, as an initial step, name what he wanted. Our uses of carefully timed frustration have gradually been increased, and children who previously had no communicative speech are now not only talking, but also learning in a fairly normal classroom situation. We have also used conditioning procedures, somewhat more informal than Ferster and DeMyer's (11, 12), to get the children to use communicative speech. But it required frequent discussion and much support before a number of staff members could sufficiently use more demanding, frustrating therapeutic measures of unconscious and even conscious sadistic meanings to a point where this newer approach could be effectively employed.

The 4 children in the experimental group are treated by more permanent personnel, thus providing the enduring, long-term objects required by such children for sustained ego-growth. Among both the psychotherapist and other treatment agents there has been a tendency toward use of co-therapists, which spreads out the training opportunity somewhat, buffers the children from some of the impact of their therapists' vacations, illnesses or eventually leaving the hospital, and allows some sharing of the heavy emotional and time burdens of treating these children. At the same time, trainees who are briefly rotating through the services (*e.g.*, student nurses) are welcomed to observe and peripherally interact with these children, but are not assigned to them to the degree that any meaningful relationship will barely develop only to be ended abruptly a few weeks later. Thus the somewhat restricted training use that is made of these cases is primarily in seminars, progress conferences, and case presentations, as well as the children's availability for both informal and formal observation (much used in our setting with nurses, and in the training of medical students). Substantial training goals are still achieved, though some training purposes have had to be subordinated to improve service. Now that the staff group has formed an identity of its own, there is considerable resistance to the admission of new members to the group, which unfortunately further limits the psychiatric residents' and other trainees' knowledge of the treatment program in these cases. We are confident that these and other new problems (such as those occurring between co-therapists) can be worked out.

With regard to the selection of therapists for these children, it was of course found that the ability of therapists to treat such children varied markedly. Some therapists were excellent in their intuitive understanding of psychotic children and poor at treating neurotic children, while others were equally capable with all diagnostic types. Some developed a high degree of interest in these children only to become discouraged by the minimal and somewhat esoteric gains made in treatment. The ego gratification of the therapist is minute, and there-

fore certain therapists cannot tolerate these patients. Probably it is not necessary in the training of psychiatric personnel that they treat such a rare condition when they lack interest or aptitude or perceptiveness for this phase of psychiatry.

The treatment of all 4 children in the experimental group progressed more smoothly and with much greater improvement resulting than any of the initial group had experienced. This improvement is exemplified in the following case description :

Bonnie, an appealing 4-year-old girl, primarily showed features of an autistic psychosis when first seen at the hospital, though the confused history hinted of an earlier symbiotic psychotic state. She was extremely detached, unrelating, and withdrawn, could shut people out of her world entirely. There was minimal communicative speech other than echolalia, gross disorientation in time and space, arm-flapping, grimacing, and absence of pain response ; she was incapable of play activity, extremely fearful, had a mechanical robot-like quality, and her stiff and somber look was broken only occasionally by moments of strange, massive excitation. She had previously tested in the "moderately retarded" range, but the Seguin formboard test and some selected Binet items administered at the hospital bespoke above average intelligence.

The therapeutic regimen initially included the following : give unendingly of the primary affection she had missed, but dose this so it would not be thrust upon her when she could not accept it ; provide major staff objects for identification that would be long term and primarily sources of gratification ; restore a capacity for play and direct it toward use in belated mastery of severe early trauma ; establish ego boundaries and convey a sense of her inner worth ; avoid anything resembling the harshness and restrictions she had previously experienced ; aid the development of compulsive and other neurotic defenses ; teach specific academic skills and variously build up a broad range of ego functions ; encourage spontaneity and attempt to bring joy and expressiveness into the life of this pathetically frozen, melancholic child. All services accepted the challenge with vigor, and many staff members became deeply attached to her (some who have formally left the hospital still return to visit her, give her music lessons, *etc.*, and others state they will not leave until Bonnie no longer needs them).

She gradually gave up her autistic defenses,

initially forming very dependent, clinging, demanding quasi-symbiotic relationships. Communicative if perseverative speech took the fore. Extensive imitating and mirroring of staff and peers alike appeared. Ego skills in all areas increased by tiny tentative steps. She became a bit more expressive, though only rarely enjoying herself. Play began at first in imitation of her therapist, and soon focused exclusively upon feeding scenes, scoldings and punishments, and dire warnings to "stay in bed and be quiet!" Whiny dissatisfaction transformed cautiously into negativism, and testing—all well accepted by staff as signs of progress of self-definition and assertion. Anger as expressed in a context of control was encouraged, and crude but socially acceptable outlets for growing anal-smearing impulses were provided. Bonnie insisted she was first, biggest, smartest, must win and be included in everything, and turned away disintegrating in great hurt and tears if her wishes were less than totally fulfilled.

More recently she has weaned herself somewhat from her major love objects, has more meaningfully internalized them, shows increased separation tolerance, can grudgingly accept sharing and delay. She has turned to peers, participates with them, gropes with learning how to join in, and sometimes initiates group activities, though just as easily withdrawing to isolated, compulsive busy work. She needs far less reassurance, and often welcomes instead of being panicked by change. Her anxiety is both diminished and more appropriate to situations, though still too often resulting in stiff fist-clenching, severe "wiggling," and a plunge back into routines, rules and repetitions. She is generally playful, teasy, even gay and lively a good deal, a "joy to work with" as many monthly reports now describe her, yet she can dip abruptly from zestful creativity to utter dejection. She now is often proud, more confident, rather sassy. She long has shown remarkable alertness, and now is a hungry, and far less grim learner, reading and testing in almost all areas at an age appropriate level, though making excessive use of stunning rote memory powers and revealing severe distortions in abstractive capacities. Piece by piece she is literally learning each affective expression and what kind of inner and external events it is appropriately connected with ; at the same time, she slowly faces some of the profound grief she defends against fully experiencing. Meanwhile, 18 months after entering the hospital, she has moved up through one higher level inpatient group after another.

Throughout her striking progress, the therapeutic team has maintained extremely close contact, informal as well as formal channels of communication kept open and freely used. The therapist's functions extended far beyond direct treatment of Bonnie or guiding and coordinating her hospital management. Where choices were possible, he selected appropriate staff for Bonnie's major activities and shielded her from others; kept her past progress and immediate goals continually in view of staff; stimulated hope for her future and insisted she not be perceived as a "research" or "training" case; staff's positive transferences to him were deliberately elicited and put to Bonnie's use; he spared other staff members from transient discouraging developments regarding her parents and related court actions; encouragement was continually pumped up; "permission" was granted by example and comment for expression of staff's irritations, exasperations, acknowledged desires to over protect Bonnie, *etc.*; covert staff tugs-of-war were often spotted and resolved or Bonnie removed somewhat from the line of fire; and new, fresh staff and experiences were introduced when staff energies were beginning to sputter out.

Just as with Bonnie the other 3 children have shown marked improvement over a prolonged period since the new treatment program began. Perhaps the most striking aspect of this program was that all 4 children improved simultaneously, whereas previously none of the first 8 children had achieved as much growth in a similar time.

To accomplish and sustain this rate of progress at least some of the staff must be literally inspired in their work or in some research relevant to it. Whether this fervor wanes over a period of months or years or not, they eventually become drained of their energy and increasingly develop guilt and hostility in the face of their growing therapeutic impotence with these children. To "protect" such personnel and to maintain the relatively rapid rate of progress in the children there must be an awareness that this situation may develop, and when it cannot be resolved in any other way, arranging for such personnel to reduce their amount of contact with these children and focus their efforts upon a different type of child may be indicated.

The same diagnostic criteria were used for the selection of all the patients for this

study. Some were found to be primarily autistic according to Kanner's description (17, 18) of early infantile autism, with little tolerance for change, intense need for sameness, preoccupation with inanimate objects, an alert and intelligent expression without being attentive, lack of communication with and feeling for the mother, impairment of sensory perception, proprioception and the persistence of primitive reflexes(3), the need to be isolate, *etc.* Others typified Mahler's symbiotic psychosis syndrome(19, 21, 30), or the "state of the need satisfying part object" with regression, agitated temper tantrums and panics, unusual sensitivities, almost catatonic reaction to minor frustrations, and secondary autistic features. Still others could not be clearly designated as either autistic or symbiotic, but were considered clinically to have some of the characteristics of both of these syndromes.

Higher level categories of childhood psychosis, such as the borderline states(15), neurotic, psychopathic types, ego defect and others(3, 4, 10) have been excluded from this study because their treatment, similar to that described by Despert(6) or Ekstein(7-9), has been relatively successful in this hospital even though some of the therapeutic problems inherent in a hospital training center setting of course have their impact on these children too.

SUMMARY

A review is presented of the treatment of 12 autistic and symbiotic psychotic children over a period of years at the University of Michigan Children's Psychiatric Hospital. The paper focuses upon the effects of two contrasting treatment programs and their relation to problems specific to the treatment of these children in a training center. An initial group of 8 young psychotic children treated at the hospital showed relatively little improvement. Close scrutiny of the therapeutic program and course of their treatment revealed a number of potentially surmountable obstacles to these children's ego development. Subsequently, a group of 4 similar children were treated in a new, gradually evolved experimental program, with considerable improvement resulting. The new program included the use of multiple long-term therapists and group meet-

ings for all personnel having close contact with these patients : it provided continuity of staff, coordination of treatment program, continual stimulation and reinforcement of the staff's therapeutic efforts, and generally diminished the likelihood of unchecked, malignant countertransference developments. Regularly scheduled group meetings for relevant personnel are in part educational but of greater significance is the group process which provides staff catharsis frequently and insight occasionally into their real feelings for these children. As a result the staff are less encumbered by negative countertransference. The staff members become mutually supportive when they share understanding of each others' efforts and sacrifices. Improvement in the autistic or symbiotic child is positively correlated with the total amount of the staff's sustained investment in his care, which can be enhanced by a staff "group."

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AN EXPERIMENT IN TEACHING FAMILY DYNAMICS¹

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This paper is concerned with the general subject of teaching family dynamics. Specifically it deals with a course which was given as one aspect of a pilot experiment at the National Institute of Mental Health in training mental health counselors. The rationale for the pilot project as a whole has been described elsewhere(1). It sprang from a recognition of the need for more low cost psychotherapy and was based on the thesis that carefully selected mature people could be taught in the short period of two years to do psychotherapy with limited types of patients, *e.g.*, adolescents and adults who are not psychotic and who do not engage in grossly antisocial behavior. The kind of psychotherapy was conceived as similar to that which is done in community mental hygiene clinics or college counseling centers in which patients are usually seen once a week. The students in the pilot project were 8 married women approximately 40 years of age, all college graduates, with no prior formal experience or training in the mental health field.

The course in family dynamics which was offered to them illustrates the way beginning therapists can be initiated into this complex area. The course stands on its own merits and can be considered independently of the pilot program as a whole.

While the traditional training of psychotherapists includes interviews with patients, group and individual supervision, placement in various community agencies, lecture and reading courses in the areas of personality development, psychodynamic theory and psychopathology, it is usually only as a result of further, often painful experience that the therapist becomes aware of the importance of family interaction and the strength and mutuality of family bonds.

Family therapy is one of the best ways to learn these significant lessons, but the

treatment of disturbed families is challenging and difficult even for experienced therapists. Our problem was to give our beginning students the benefit of experiencing such families without overwhelming them too early with heavy therapeutic responsibility. The structure of the course was designed to solve this problem.

GOALS

Our basic goal was to help our students to perceive the family as something more than the sum of its parts. Each family member contributes threads to the fabric of family life. Its pattern, although adumbrated before the children are born, becomes richer and more differentiated as each child makes his unique contribution. The patient *was* and *is* a continually interacting member of the family, playing a part in its adaptive and maladaptive functioning. He is not a passive "victim" of parental attitudes.

The inexperienced psychotherapist tends to be gullible, to overidentify with his patient, and innocently to accept the patient's perceptions of an event as the whole truth. He may then over-react to his first taste of self deception and become unwilling to believe anything the patient reports. We wanted to help our students find that elusive position between sentimental intimacy and cold distance that seems so desirable and yet so difficult to achieve even for experienced therapists. We wanted to unfetter their empathy and yet maintain their perspective.

Experience is relative, and meaningful to the individual only through his perception of it. The "objective facts" of a family incident, which is a focus of conflict, are essentially unknowable to the observer. Taking the different perceptions of the incident into account is crucial to the understanding of the interlocking family dynamics. The therapist must develop an almost acrobatic skill in moving from one family member to another, seeing the incident through the eyes of each one. We wanted our students to

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² National Institute of Mental Health, Bethesda, Md.

practice performing this feat, and to realize how the therapist becomes temporarily ineffective if he enters the patient's mythology and forgets the relativity of perception.

By considering the family as a whole, students can become aware of the various myths created by individual family members. They can see how shared mythology and complementary neurotic roles interact to perpetuate pathology.

We wanted our students to feel the full impact of the current family drama; to see the child's look of contempt when father cringes under mother's tirade. We wanted them to chronicle the family subsequences of a single significant incident. For example, a boy impulsively runs away from home. During the next few days his well-intentioned, hard working father suffers a flare-up of his old ulcer and becomes increasingly irritable and perfectionistic. His mother, martyred and overprotective, becomes depressed and tortures herself with vague accusations that it is all her fault. When the boy returns, he finds even more reasons for the guilt and rebellion which led to his running away. Conducting individual psychotherapy cannot fully convey the lessons implicit in such events. We wanted to illustrate how individual life patterns can interlock and reinforce the pathology or conversely, permit individuation and growth, and finally, we wanted the students to experience the patterns of *family* resistance as well as *individual* resistance.

Goals similar to this in the training of medical students (2-8, 13, 14, 18) and residents, (9, 10) have been mentioned by others. The course described here differs more in method than in basic philosophy from those in many progressive teaching centers.

METHODS

The course required 4 hours of class time and 4 hours of preparation each week for 2 semesters. It consisted of 6 different parts, each of which is familiar enough by itself; but the integration of these separate parts into one meaningful whole was, so far as we know, unique. This unity permitted the students to bring together the various aspects of their learning into significant *Gestalten*. The fact that all the phases of the course were taught by one instructor, the

principal author, was a facilitating factor. For the purpose of presentation we shall describe each of the 6 units as if it were a separate part. Actually they were overlapping and interdependent.

1. *Tape Recordings of Family Interviews*. The course was initiated by playing tape recordings of family therapy conducted by the instructor. These tapes provided an excellent introduction before patients were available for direct observation. The recordings had the added advantage that they could be edited, interrupted or repeated to focus discussion.

The presentation of the interview with the teacher as therapist began to structure the student-teacher relationship in a manner crucial to our philosophy. The teacher was not set apart as an authority possessing mysterious skill, operating flawlessly in an aseptic relationship with his patients, but was seen by the students as a struggling human being, sometimes floundering, sometimes skillful, sometimes insensitive, sometimes perceptive. A teacher is a model for his students and it was our conviction that a real model was better than an artificial, overidealized one. In addition, the model we wished to encourage was one of a therapist who could risk exposure.

2. *Literature Review Seminar*. This seminar was held biweekly for the first semester. Literature was selected relevant to the following areas which were discussed sequentially: the functions of the family; the marital pair; parent-child interaction; the marital relationship as an environment for the child. Each student reported to the group on assigned articles in the areas of family sociology, psychology, and psychoanalysis. The text used by all students was Ackerman's, *The Psychodynamics of Family Life*.

It is our impression, confirmed by the students, that oral reviews of articles are usually a waste of time. The material thus presented was quickly forgotten sometimes even by the student who presented it. On the other hand, when everyone had read the same article, a lively discussion took place which not only imprinted the material in memory but stimulated further thinking.

3. *Observation of Family Screening Inter-*

views. We initiated a collateral group therapy program specifically for this course. Thirteen high school boys and girls with character disorders or neurotic problems were referred from community sources. We deliberately chose patients in this age group because the troubled adolescent still living at home continues to interact with his family around those unsolved issues which relate to earlier developmental periods(16). Unlike the younger child, however, the adolescent is able to express his concerns verbally which makes him in some ways more easily accessible to adult understanding.

An initial screening appointment was made for the adolescent patient, his parents, and an occasional sibling. All appointments with patients or families were tape recorded and held in interview rooms provided with one-way glass observation windows. Each family group was interviewed by an experienced therapist and the students observed the sessions through the glass. The patient was then interviewed alone by the therapist. The entire student group observed about one half of these interviews.

Following the screening session, the class met to discuss the family. Various students identified with different family members as they recalled their observations and listened to the tape. They made such disparate comments as "That poor boy! How could he live with a mother like that!" and "What do you mean! The poor mother! Can you imagine having a kid like that in *your* house!" Gradually, they began to disentangle themselves and to experience the interacting family as a whole unit. The instructor attempted to be aware of his and the students' anxieties at such times, occasionally controlling, at other times, pointing out group process(4, 7). There seemed to be less anxiety and defensiveness in our group as compared to that reported in medical students in a somewhat analogous situation(3, 5-7). This may relate to our careful selection process, the general maturity level of our students, and the high group morale.

On several occasions a small segment of the tape involving complex family interaction was played repeatedly while the students and instructor diagramed on the

black board the subtle interaction processes which had taken place. In this way, some of the theory became meaningful and was illustrated by concrete example.

The observation of group therapy has been reported by others(9-12) to be a learning experience in which the student becomes actively involved. Observing family sessions has even greater impact. The vividness of the experience etched a picture of the family on the minds of the students which even now, a year later, has not been erased.

In retrospect, it might have been more desirable to have asked each student to watch one particular family member during the entire interview(15), to try to put herself in his place and later to interpret the subjective reality of that family member to the class. The seminar should have been scheduled immediately after the observed family session when emotional involvement was maximal.

4. *Observation of Collateral Group Therapy.* From the 13 families seen in the screening interviews 4 boys and 4 girls were selected for an adolescent therapy group and their parents for a collateral group. Each group had an experienced therapist and a student co-therapist. The course instructor was the therapist in the adolescent group.³ The students observed about one half of the weekly group sessions of both groups for 5 months, each student paying particular attention to one assigned family.

Our 8 families soon became a central communal experience for the student group. Contributing to this communality were the following factors: 1. In each group the student co-therapist permitted multiple student identifications with the 4 group therapists. Disagreements between the co-therapists were shared with the student group. 2. A group therapy consultant⁴ met with the 4 therapists biweekly. The other 6 students were present and contributed to the supervision discussions. As they struggled to understand the patients they gradually perceived the complex family dynamics.

³ Dr. Ruth Newman, Washington School of Psychiatry, Washington, D. C. was the therapist for the parent group.

⁴ Dr. Beryce MacLennan, Consultant, NIMH, Bethesda, Md.

They made such comments as, "Every time Johnny opened his mouth last Tuesday I could hear his father talking." 3. The course instructor reported all phone calls and contacts with or about the families which he had experienced between the therapy appointments. The students were eager to hear about anything that was happening to "their" families.

5. *History Gathering Interviews with Parents in Assigned Families.* After the group therapy had progressed for two months, each student conducted a structured individual interview with the parents of her assigned family. Detailed information concerning the social background of parents, history of the marriage, and the developmental and school history of the adolescent patient was obtained. Their curiosity had been heightened by observing the families in therapy and some of the students spent up to 8 hours in appointments for these interviews. While interviewing the parents they became aware of their countertransference feelings more sharply. This awareness facilitated their ability to put themselves in the place of the therapists and/or other family members, e.g., "Mr. Jones was boring for me, too. Now I understand how his son feels."

6. *Writing and Discussion of Reports.* Each trainee was asked to prepare a written report summarizing the dynamics in the adolescent patient of her assigned family, speculating on the etiology of his pathology and the family functions which it served. Her report was based on her observation of the screening session, of the individual interview with the child, of the child and his parents in group therapy, and on the material obtained in the individual interviews with the parents. Each student presented her paper in a seminar specifically scheduled for her family. These 8 sessions resembled the traditional child diagnostic case conference which has been reported as having significant training value(5-7).

RESULTS

In the opinion of the authors, the students gained new respect for the complexity of human behavior and the importance of unconscious motivation. They saw various complex but understandable patterns in

different families and the unique configuration each family member had developed as part of the whole.

Other instructors noted that during supervisory sessions on individual therapy when a student tended to overidentify with her patient, she often became spontaneously aware of it and was quickly able to see the entire family pattern more objectively.

A gratifying and unexpected result was the impact of the course on the students as a group. All the students felt possessive of the families. The entire group had witnessed the diagnostic process of all of the families in detail and had struggled with the therapists through the initial phases of therapy. The entire student body felt that they were co-therapists. This communal experience with patients is not often present in training programs.

Family members and incidents became an ABC of psychopathology to which each student could refer with the expectation of being understood. One year later, as their training continues, they are gradually replacing this primitive language with the more traditional technical terminology. Both the instructor and the students, however, still find it useful to refer to family members as illustrating psychodynamic theory.

Limitations. The course had several limitations and faults, some of which might easily be corrected.

1. The events occurring in the lives of our family patients were so dramatic and intense that interest focused almost entirely in the present to the neglect of the past.

2. The families were all from the suburban middle class with the result that our students had no experience in this course with other socioeconomic groups.

3. The adolescents were only moderately disturbed and extreme forms of family pathology were not observed.

4. The length of time during which the families were treated and observed was too short. During the 5 months of group therapy, we saw little evidence of significant change in any single patient and thus missed seeing the effect of change on other family members. The chief patterns of resistance in each family could be well illustrated, but only by observing families over a longer time, perhaps 1½ to 2 years, can

the more subtle patterns of mutual provocativeness and interaction be seen. This would give students an opportunity to reevaluate their initial, sometimes erroneous impressions.

5. Articles from the reading syllabus assigned to the student group were not accurately enough timed. Articles might better be selected when we felt a given family illustrated that particular subject.

SUMMARY

The course described in this paper was an important aspect of the first year's work in an experimental program in training psychotherapists. It was unique in that it integrated many different parts into a meaningful, lively, learning experience of family dynamics without burdening the beginning students with too heavy a therapeutic responsibility in this difficult field. The good results were recognized by students and instructors. The success of the program as a whole is a further indication that courses of this kind would be useful in the training of psychotherapists of whatever professional affiliation.

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PROGNOSIS IN "PROCESS" AND "NON-PROCESS" SCHIZOPHRENIA¹

JOSEPH H. STEPHENS, M.D., AND CHRISTIAN ASTRUP, M.D.²

In spite of the fact that Bleuler spoke of the group of schizophrenias, there is a tendency to consider schizophrenia a homogenous entity. Many writers, however, have urged the need for greater clarity in the use of the term schizophrenia and Kubie (29) and Kanner (26) have predicted that the term will disappear in the foreseeable future. Szasz (40), who has been particularly critical of current nosology, speaks of the diagnosis schizophrenia as a "panchreston" which only serves to fill a scientific void.

Nevertheless, problems in nosology are not popular today, and the attempt to divide schizophrenia into subgroups has been termed a classificatory game in which similarities in the new subgroups are pointed out to justify the lumping together of the disorders again under the heading schizophrenia. Typical of such current thinking is this statement in Mayer-Gross's textbook (36): "The effort by Kleist and his pupils to split schizophrenia up again into numerous small entities with different syndromes and outcome, must appear, in the absence of any established pathology, as a retrograde step toward the pre-Kraepelinian confusion of the nineteenth century."

The interest in description and classification prevalent in the 19th century has given way in our century to concentration on formulations of individual psychodynamics. As Grinker has noted, most American psychiatry is dynamic psychiatry and the word descriptive has become derogative. As a result, the details of clinical syndromes are little known and the natural history of psychiatric diseases has been neglected (21). There is no reason, however, to assume that the importance of psychodynamics need

be overlooked when attempts are made in clarification of nosological confusion by more accurate clinical definitions. Zilboorg has repeatedly pointed out the fact that the clinical work of Kraepelin, Bleuler, and Freud need not be looked upon as incompatible.

Failure to take into account the possibility of different types of schizophrenic illness with varying prognoses makes it difficult to compare treatment results reported by different investigators. Entire books are written on the psychotherapy of the psychoses without even passing reference to the natural history of different types of illness. As Donnelly has emphasized, the occurrence of the spontaneous remissions in the various forms of mental illness still constitutes a major problem in the evaluation of psychiatric therapies (9). In 1931 Hinsie (22) wrote: "What the psychiatrist needs, before he can place a fair appraisal upon his treatment measures, is a clearer conception of the ordinary nosological factors in this type of disorder. He needs to have an accurate knowledge of the entire course of schizophrenia." Three decades later we find this advice largely ignored by many investigators interested in schizophrenia.

Twenty-five years ago Langfeldt proposed that schizophrenia be divided into at least two groups, a severe "process" group with a poor prognosis, and a "non-process" or "schizophreniform" group with a good prognosis (31). Bellak in 1948 proposed a dichotomy between classic dementia praecox with a poor prognosis and schizophrenia with a favorable prognosis (5). Sullivan had expressed the opinion some years before that dementia praecox and schizophrenia should be considered unrelated syndromes (39). Holmboe and Astrup in 1957 reported different outcomes on follow-up in various forms of schizophrenia (24). A group of American psychologists in 1959 wrote in support of the concept of a process-reactive distinction in schizophrenia (4, 20, 27, 45). Ey, on the

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² Respectively, Johns Hopkins University School of Medicine, Baltimore, Md.; Gaustad Hospital, Oslo, Norway.

The authors wish to express their appreciation to Dr. Barbara Betz who suggested this study and made it possible by her assistance.

basis of individual follow-up studies, reported in 1959 on 5 types of schizophrenia with varying prognoses (12). Leonhard, whose work is virtually unknown in this country, has further divided schizophrenia into numerous subgroups said to have varying prognoses (34, 35). His work, which is almost entirely in German, has been reviewed by Fish (14-16) and Astrup (1, 2).

Method of the Study. We have attempted to prognosticate outcome in a group of patients labeled schizophrenic at the time of discharge from the hospital by diagnostically reclassifying the patients into groups of different clinical syndromes expected to have varying outcomes.

The charts of 178 Henry Phipps Psychiatric Clinic inpatients hospitalized between 1944 and 1954 were used. The discharge diagnoses on all patients had been reviewed and agreed upon by the psychiatrist-in-chief and chief resident at the time of discharge. No patients diagnosed paranoid state, schizoid personality, or latent schizophrenia were included. These same charts had previously been used in studies by Whitehorn and Betz on the relationship between therapist and outcome in schizophrenia (6, 41-43).

Five to 13-year follow-ups were obtained in 143 (80%) of these patients. Most of these follow-ups were obtained by Dr. Betz and all of the evaluations of degree of improvement, both at the time of discharge and on follow-up, were made by her. Follow-up evaluations were based on letters, telephone conversations, and personal contacts with the patients, their physicians, relatives, and hospitals. Patients were graded "recovered," "improved," and "unimproved" both at the time of discharge and on follow-up. All 35 patients rated "recovered" on follow-up were either employed or doing housework without difficulty, and were considered to show no residual symptoms of their psychoses. Of the 36 patients rated "unimproved" on follow-up, all were in psychiatric hospitals except for 4 who were considered to be committable although they were being taken care of at home by relatives. Those 72 remaining patients rated "improved" at the time of follow-up were no longer considered to be overtly psychotic in any way and most of them were

employed or taking care of their homes although they showed residual signs of their past illness and could not be considered entirely recovered.

All 22 patients rated "recovered" at the time of discharge were considered to be without residual evidence of psychosis or significant psychiatric impairment and were expected to return to work or homemaking without difficulty. Those 75 patients rated "unimproved" at discharge were either transferred directly to another hospital or sent home to their families with a recommendation for further treatment, usually in a hospital. The remaining 81 patients rated "improved" at discharge were no longer considered to be overtly psychotic or in need of hospitalization but were felt to show evidence of some residual symptoms requiring treatment in most cases.

Before the follow-up results were known to us, all 178 cases were retrospectively rediagnosed according to the subclassifications of Leonhard and others. The diagnoses were made solely on the basis of data found in the case records of the hospitalization. Cases were then divided, according to the retrospective diagnoses, into 4 groups, P1 and P2 ("process"—81 patients), and N1 and N2 ("non-process"—97 patients), which were predicted to have varying outcomes.

Group P1, predicted to have the poorest

TABLE 1

SUBGROUPS OF "PROCESS" SCHIZOPHRENIA	
P1 Systematic schizophrenia (Leonhard).	
Systematic catatonia	9
Shallow hebephrenia	9
Silly hebephrenia	3
Eccentric hebephrenia	10
Autistic hebephrenia	1
Expansive paraphrenia	2
Fantastic paraphrenia	1
Phonemic paraphrenia	10
Hypochondriacal paraphrenia	5
Early infantile autism (Kanner)	2
	—
P2 Atypical schizophrenia (Leonhard).	52
Affect laden paraphrenia	18
Periodic catatonia	10
Schizophasia	1
	29

TABLE 2

SUBGROUPS OF "NON-PROCESS" SCHIZOPHRENIA		
N1	Cycloid psychoses (Leonhard).	
	Anxiety elation psychosis	10
	Motility psychosis	7
	Confusion psychosis	4
	Pseudo-neurotic schizophrenia (Hoch & Polatin)	9
	Pseudo-psychopathic schizophrenia (Kaplan, Dunaif & Hoch)	7
	Depersonalization psychosis (Galdston & Stocking)	7
		44
N2	Reactive psychoses	
	Hysterical type	22
	Depressive type	23
	Other types	8
		53

RESULTS

At the time of discharge significantly more "process" than "non-process" patients were rated "unimproved" just as significantly more "non-process" than "process" patients were rated "improved" or "recovered." These results are shown in Figure 1.

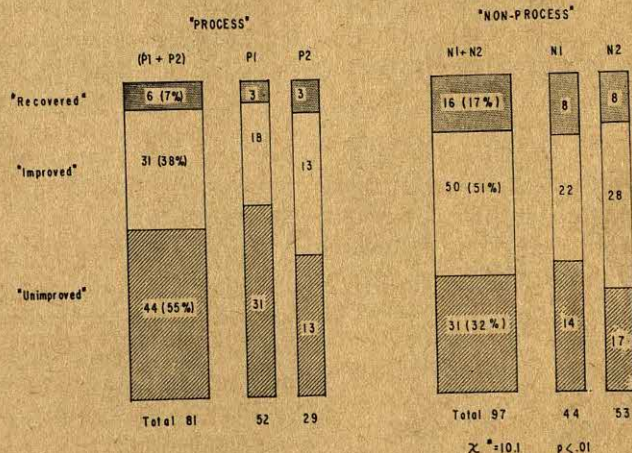
At the time of follow-up only 2 of the "non-process" patients were rated "unimproved" whereas about half of the "process" patients were rated "unimproved." Likewise the "non-process" group had significantly more patients rated both "improved" and "recovered" on follow-up. These results are shown in Figure 2.

On comparison of the condition of the patients on discharge and follow-up the "non-process" patients were found to have improved greatly while the "process" pa-

prognosis, was made up of 9 subgroups of Leonhard's "systematic schizophrenia" and

FIGURE 1.

CONDITION AT DISCHARGE OF 178 PATIENTS



also included "early infantile autism." Group P2, considered less severe, comprised Leonhard's 3 forms of "atypical schizophrenia." Group N1 contained Leonhard's 3 types of "cycloid psychoses" as well as "pseudo-neurotic" and "pseudo-psychopathic schizophrenia" and "depersonalization psychoses." Group N2, predicted to have the best prognosis, was composed of the "reactive psychoses" described in the Scandinavian literature (3, 11, 13, 17, 24, 30-32). The subclassifications with the number of patients in each group are shown in Tables 1 and 2.

tients had not changed appreciably. The results are shown in Figure 3. (Only the 143 patients on whom there are follow-ups used for the comparison.)

A comparison of what happened on follow-up to those "process" and "non-process" patients rated "improved" and "unimproved" is of particular interest. In Figure 4, of all the patients rated "improved" at discharge half of the "process" group was rated "unimproved" on follow-up. As a matter of fact, all "process" patients were in psychiatric hospitals on follow-up whereas only one of the "non-process" patients

FIGURE 2. CONDITION OF 143 PATIENTS AFTER 5 TO 13 YEAR FOLLOW-UP

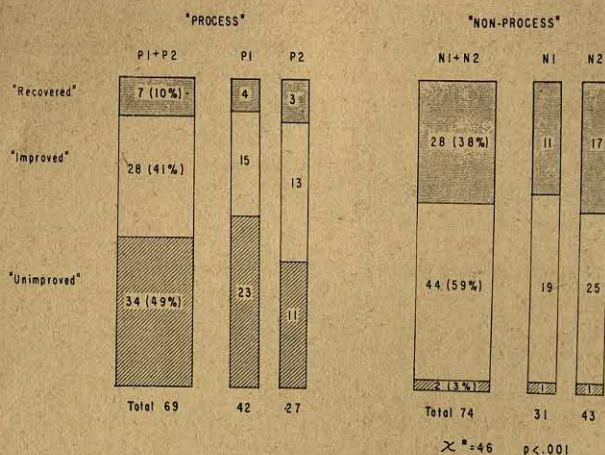


FIGURE 3. COMPARISON OF CONDITION AT DISCHARGE AND ON FOLLOW-UP OF 143 PATIENTS

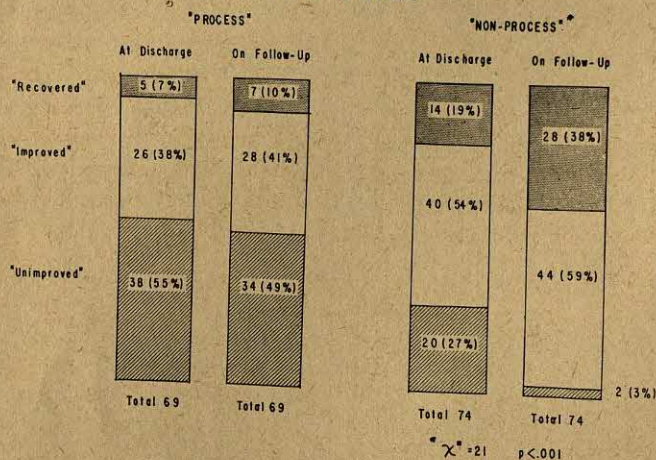
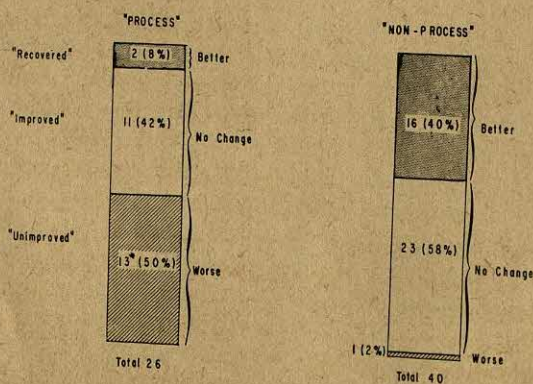


FIGURE 4. CONDITION ON FOLLOW-UP OF PATIENTS RATED "IMPROVED" AT DISCHARGE



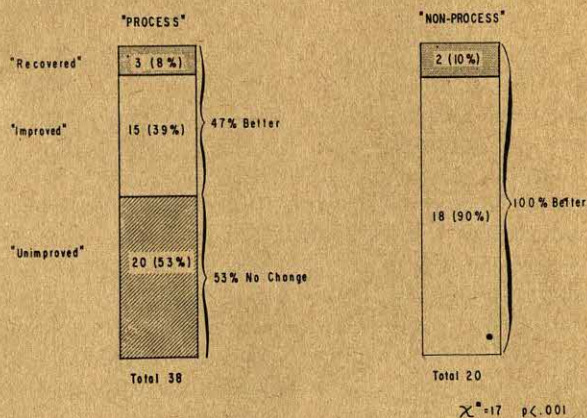
* All these patients in psychiatric hospitals.

had deteriorated and was rated "unimproved."

In Figure 5, although about half of the "process" patients rated "unimproved" on discharge had improved on follow-up, all of the "non-process" patients had improved.

groups of schizophrenia. For such a differentiation a knowledge of the characteristics of the subgroups is thus more important than a knowledge of specific characteristics of the more inclusive "process" and "non-process" groups. However, it is impossible in the

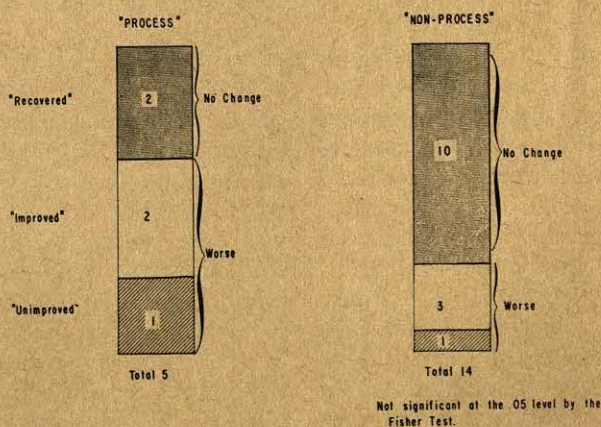
FIGURE 5. CONDITION ON FOLLOW-UP OF PATIENTS RATED "UNIMPROVED" AT DISCHARGE



Interesting, but less significant because of the smaller sample, are the changes on follow-up of those patients rated "recovered" at discharge as shown in Figure 6.

space available to describe each of the more than 20 subgroups. These have all been adequately described in the literature (1-3, 10, 11, 13-17, 19, 23-25, 28, 30-35,

FIGURE 6. CONDITION ON FOLLOW-UP OF PATIENTS RATED "RECOVERED" AT DISCHARGE



The Clinical Differentiation of "Process" and "Non-Process" Schizophrenia. In this study we have differentiated "process" and "non-process" schizophrenia on the basis of different clinical syndromes which for this purpose were considered to be sub-

38). Instead, some of the characteristics found in the "process" and "non-process" groups will be enumerated.

The following traits found predominantly in the "process" group suggest a poor prognosis: 1. Introverted, schizoid per-

sonality prior to psychosis. 2. Chronic schizophrenia in near relatives. 3. Poor premorbid social, work, and sexual adjustment. 4. Insidious onset. 5. Long duration of symptoms. 6. Absence of precipitating factors. 7. Inability of patients to give any sort of reasonable psychological reason for the psychosis. 8. Lack of apparent relationship of psychotic symptoms to past psychological conflict. 9. Intense affective blunting, complete lack of emotional response to all stimuli, with real deadening of emotional life beyond defect of interests and deficiency in initiative. 10. Delusions which appear primary or automatic and unrelated to each other. 11. Delusions of fantastic, extremely bizarre, or cosmic scope with no indication that patient is aware of his absurdity. 12. Affective loading of paranoid delusions (patients talking of delusions with great enthusiasm or irritation). 13. Somatic delusions and hallucinations described in so grotesque a manner that it is impossible to empathize with the patient. 14. Certain auditory hallucinations: a) hearing patient's own thoughts, b) conversing with voices, c) voices commenting on patient's thoughts and movements, and d) voices which come from the patient's own head or body or people in the surroundings. 15. Haptic or tactile hallucinations, especially those involving the sexual organs. 16. Visual hallucinations of mass scenes or murder and torture. 17. Massive feelings of passivity and influence in the presence of clear consciousness. 18. Stereotyped, automatic, grotesque and bizarre movements. 19. Silly giggling and senseless behavior to the point of inability to carry on an ordered conversation. 20. Specific association disturbances: a) neologisms, b) echolalia, c) perseveration, and d) word telescoping. 21. Disturbances of symbolization, *i.e.*, real perceptions given an abnormal significance without rational or emotionally comprehensible reasons. 22. Presence of a defect in higher ethical and social feeling not previously present.

The following traits found predominantly in the "non-process" group suggested good prognosis: 1. Absence of "process" traits enumerated above. 2. Extroverted or cyclothymic personality prior to psychosis. 3. Absence of any gradual personality changes.

4. Presence of non-schizophrenic illness, especially manic-depressive psychosis, in near relatives. 5. Good premorbid work, social, and sexual adjustment. 6. Sudden acute onset. 7. History of previous remission of similar illness. 8. Presence of clearly evident external stress and precipitating factors. 9. Psychotic symptoms, including hallucinations, easily understandable in terms of precipitating factors and past history. 10. Onset associated with marked excitement, elation, perplexity, anxiety, depression, or self-blame. 11. Somatic illness as a precipitating factor. 12. Preservation of affect with considerable emotional reactivity. 13. Vivid expression of personal difficulties by patient with very noticeable distress when traumatic experiences discussed. 14. Delusions of inferiority, guilt, and general hypochondriasis. 15. Realization that depersonalization feelings, if present, are delusional. 16. Presence of delusions that appear secondary to disturbed consciousness, depression, or sensitive personality structure. 17. Lack of domination of clinical picture of paranoid delusions if they are present. 18. Presence of confusion and clouded sensorium. 19. Presence of manic-depressive features. 20. Natural, undistorted movement in hyperkinetic states.

Our findings are in close agreement with those prognostic factors reported by Phillips(37), and Chase and Silverman(8).

CONCLUSION

The relative success in dividing a group of patients into subgroups with varying outcomes depends in part, of course, on the nature of the original group and the criteria by which the diagnosis of schizophrenia was first made. In the group we have studied it was found that the risk of deterioration was very light in the "non-process" patients whereas the prognosis was grave in the "process" group. Nevertheless, although about half of the "process" patients were badly deteriorated on follow-up, we were unable to predict which particular "process" patients would either improve or worsen after discharge. Thus fatalistic pessimism about a particular schizophrenic patient is unwarranted.

We cannot say on the basis of our study whether we are dealing with discrete kinds

of disease processes or different points on a continuum. However, our findings do support, for practical purposes, Bleuler's concept of "groups of schizophrenias" rather than an entity "schizophrenia" (7). Our findings are thus in agreement with those of Freyhan (18) who has urged that we re-examine Bleuler's concepts which are no less pertinent today than 40 years ago.

The persisting notion of "schizophrenia" as an entity can only impede understanding and research. European phenomenological studies, unfortunately little known in this country, may provide some clarification in this confusing field.

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DISCUSSION

JOACHIM E. MEYER (München, Germany).—The paper of Drs. Stephens and Astrup deals with a topic of real practical importance. Like the authors I feel that the task of differentiating and subdividing Bleuler's group of the schizophrenias is nowadays often misunderstood as a purely theoretical matter, comparable with the creation of new syndromes out of old well-known diseases. But this is not the case: studies of the outcome and the prognosis of schizophrenia as a whole give little useful information for the clinician. But if we know the course of the various subgroups we are in a much better position to predict the probable outcome of an individual case. This plays a role in the post-clinical rehabilitation but the main importance lies in the fact that a differentiated prognosis enables us to evaluate critically our therapeutic measures. I need not emphasize what that means in these days of rapid progress in pharmacotherapy. It would be very valuable if one could take into account the prognosis of the subgroup to which the single case belongs as a larger basis for the therapeutic plan which is oriented on target symptoms. The knowledge of the great variations in the spontaneous course of the various subgroups of schizophrenia is even more valuable in establishing a reliable judgment about the effectiveness of psychotherapy of schizophrenic patients, because we have to deal here always with a very small number of selected cases, *e.g.*, in Europe the best known case of schizophrenia, treated successfully with psychotherapy alone by Mme. Sechaye, is very much under discussion, because there is no agreement on the diagnosis. The whole value of this observation is questionable because one is uncertain how the course would have been without treatment.

I shall not discuss the methodology of Dr. Stephens and Dr. Astrup in detail. Objections are possible, for instance with regard to the fact that the authors, or rather Dr. Betz, have not interviewed all patients personally. With regard to the frequency of relapses, particularly in non-process schizophrenia, I would like to ask how the authors considered the prognosis in cases with very frequent relapses but without definite deterioration. However, I do not think that these objections will minimize the evidence of their findings to any considerable extent.

In the large study of Astrup and Holmboe amongst 108 cases of non-process schizophrenia—the authors called them reactive psychoses with typical schizophrenic symptoms, according to the Scandinavian nomenclature—45, that is more than a third, later showed a course towards deterioration. The Danish authors Strömberg and Welner had to correct their diagnosis reactive psychosis into schizophrenia—that corresponds more or less with the terms non-process and process schizophrenia—in 30%. Another Norwegian author, Eitinger, had to do the same in 12%. The high concordance between the acute clinical picture, respectively the subgroup and the prognosis in the material of Drs. Stephens and Astrup, is most striking and may be due to an advanced selective procedure regarding the criteria. Another question is why the authors count the pseudo-neurotic schizophrenics in the non-process group. Do not most of the pseudo-neurotic schizophrenics show, what we call, a break in the life line and a definite loss in social adaptation, related to autism?

The value of the differentiation of schizophrenia by Leonhard into 22 subgroups I can not judge sufficiently from my own experience. Henri Ey tried to classify the end stages of 100 schizophrenics according to Kleist and Leonhard. He found that 30% of the cases could be classified under several headings. For the non-chronic cases one has to keep in mind that many patients change in their prevailing clinical features frequently, particularly during the first months of the illness. That increases the difficulties of classifying in such subtle subgroups. On the other hand the relative uniformity and constancy of the symptomatology reached under drug treatment can diminish further the possibility of delineating such groupings.

However the significant difference in the prognosis of process and non-process schizophrenia given by the authors cannot be questioned. It is an important confirmation of the former attempts in the same direction which came to light at the International Congress of Psychiatry in Zürich in 1957. Another point of interest should be mentioned in this connection: the relation between the prognosis and the hereditary factors in both groups. Strömberg and his co-workers found that in the benign schizophreniform psychoses there is a considerable number of the same or of similar mental disorders in the family, while in process schizophrenia there are only very few mental disorders in the family, if at all, but then always with an identical clinical picture and the same unfavourable prognosis.

Quite apart from the question of how to interpret these findings, the results of the prognosis and the hereditary factors in the different subgroups are among the most interesting topics in modern research on schizophrenia. The follow-up studies of Drs. Stephens and Astrup are a considerable contribution to this subject.

Concluding this discussion one could perhaps raise the question whether the terms process and non-process schizophrenia are suitable at this stage of our knowledge to designate them to both groups. With the term process we run the risk of pretending greater knowledge than we have. I may remind you

of the study of Karl Jaspers on process and evolution in mental disorders to demonstrate the extent of the problem involved. Whether one means a clinical, a biological or a psychic process there is no proven ground to attribute this term to one group and to withhold from the other. Perhaps H. Ey is right when he wrote: "What have been regarded as differences in nature are nothing more than differences of degree or of phase in the evolution of the schizophrenic psychosis." Therefore I would suggest that one should designate to both groups terms like nuclear group and marginal forms—terms which are not related to any theoretical concept.

SOME CORRECTIBLE IMAGES OF PSYCHIATRIC PATIENTS, PHYSICIANS AND HOSPITALS¹

MATHEW ROSS, M.D.²

At the centenary meeting of the American Psychiatric Association, Alan Gregg(9) said :

No other speciality of medicine has had a history so strange nor a relation to human thought so intimate as psychiatry. The three most powerful traditions or historical heritages of psychiatry are still as they have been from time immemorial, the horror which mental disease inspires, the power and the subtlety with which psychiatric symptoms influence human relations and the tendency of man to think of spirit as not only separable but already separate from body. These are the inevitable and inveterate handicaps of psychiatry.

If we are going to move ahead in psychiatry it seems to me necessary for us to make a special effort to explore, understand, and correct as appropriate those images of the psychiatric patient, hospital and physician which come to our attention. I believe that there is no single image of American psychiatrists, patients, or facilities, but that these images vary from person to person, and place to place, as well as from time to time. Because of these circumstances, this effort makes no pretense of complete coverage but rather, perhaps, through the selections I have made of other men's words, will indicate my admittedly prejudiced views of some recent and glaring instances of correctible images.

We might begin our survey in the area of research, and the funds and persons who make it possible. If we are to do our best for those who are mentally ill, it is necessary that we have sufficient and continuing financial support. When we come to examine the citizens' contributions to health causes we immediately wonder how favorable our image may be. For example(12), in 1957, the American Cancer Society

raised about \$30 per person for cancer victims, the American Heart Association, about \$2 per victim, the Arthritis Association, about 30¢ per patient, the National Association for Mental Health, about 5¢ per patient. Compare this with the \$3,000 per victim raised by the National Foundation for Poliomyelitis.

What is there about psychiatry's image which produces this discrepancy? Perhaps we can cast some light upon this by an examination of a vivid example of attitudes towards psychiatric research which were demonstrated recently in relation to some basic research sponsored by the National Institute of Mental Health at the University of Wisconsin. Such distinguished newspapers as the *Washington Post* and the *New York Times* carried the story under such headlines as: "One Million Dollar Monkey Love Research Arouses Byrd"(18), and "U. S. Aides Defend Monkey Research"(11). The news items went on to report: "Senator Harry F. Byrd, Democrat of Virginia, reported with fiscal indignation yesterday that the Government plans to spend \$1,201,925 to see why baby monkeys love their mothers." Representative William H. Harsha, Republican of Ohio, commented that "If this profound research should reveal that the baby monkey detests or has no affection for its mother, I'm wondering how many millions more will have to be spent in psychiatric treatment for the baby monkey." Extensive coverage of this particular item is in sharp contrast to the space given to a comment by Editor Graham Dushane(6) of *Science*, the official publication of the American Association for the Advancement of Science, in which he said,

Comparative Research teaches us much that we can learn in no other way . . . subhuman primates, as the Congressmen should know, offer unusual advantages for research. Interesting in their own right and fully worthy of scientific investigation, they occupy the unique position of being the animals most similar to men in physiology and in mental capacity.

¹ A modified version of the paper was presented as the Academic Lecture, Mississippi Psychiat. Assoc., April, 1962, Jackson, Miss.

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Their bodies and brains are far more like ours than are those of any other animals. Hence, they react to physical stresses, to disease, to psychic disturbances, in much the same way that we do. It was not caprice that led us to use a chimpanzee for our first sub-orbital test shots. The brilliant achievement of Colonel Glenn last week owes something to what was learned from Ham's flight. Prior to the work of Professor Harlow and others, hunger, thirst, pain and so on were thought to be the primary motivations of behavior. Harlow has shown us experimentally that monkeys have—as had long been suspected from man—motivations not reducible to those primary ones: drives to explore, to manipulate, to see, to hear, and to experience affection. Furthermore, his work has had an effect on learning theory: monkeys learn how to learn; they have an accretion of learning. To give another example, monkeys reared in isolation are emotionally crippled; those brought up by artificial "substitute mothers" seem for a time to be normal, but when adult they are unable to act like mothers toward their offspring. Monkeys have still another advantage as research subject. They can be studied throughout their lives—they grow up in two to three years—and can be kept in a controlled environment and subjected to planned experiments. Studies of this kind provide new insights into human behavior that could be obtained in no other way. Would the Congressmen suggest that we carry out such studies on human beings? Or do they perhaps think it unimportant to try to understand behavior? Dangerous to study motivation?

Or if we had read the *Harper's Magazine* piece by the president of the Markle Foundation, John M. Russell(15), "Medical Research: Choked by Dollars," we would have found another means of correcting the Congressional image:

Twenty years ago, for example, Hodgkin and Huxley made a study of that lowly, ugly beast of the sea—the squid—which led eventually to a better understanding of heart disease. Neither of these men was particularly interested in the heart, yet their work on the nerve fiber of the squid has cast light on what takes place when the heart beat is recorded in an electrocardiogram. For fifty years Newton Harvey conducted a world-wide search for and study of fireflies and glowworms. His work on fluorescence has resulted in better knowledge of cells and how they grow nor-

mally and abnormally and may one day provide the vital clue to understanding cancer. Fleming's work with molds led to the discovery of penicillin—which has done more to prevent mental retardation than any single development in modern medicine through its successful use in the treatment and prevention of congenital syphilis. Certainly no layman would associate studies of squid, fireflies, and molds with heart disease, cancer, and mental health. And yet this type of study is the foundation upon which all other research rests. If we, the public, forget this fact and in our impatience fail to do our share to support it, we endanger the whole research structure and hence delay the development of the medical cures we so hopefully pray for.

Therein perhaps lie some clues as to how we can approach the public with the necessity for the support of research.

And yet our own psychiatric research people are not always favorably impressed with their own work. A glimpse into Colin M. Smith's(16), "The Unscientific Basis of Psychiatry" is perhaps revealing:

It would seem odd that psychiatrists, who are themselves so familiar with the manifestations of wish-fulfillment, should fall victims to it, yet it is difficult to believe that this had not happened when we reflect on the history of many psychiatric treatments. Even our most successful treatment—shock therapy—can scarcely be said to have had the systematic, controlled and thorough investigation which its importance merits, while the results of evaluation of psychotherapy have sometimes been surprising.

The author cites a study which revealed that

only four out of 36 American and 16 out of 36 British papers had used controls . . . it would not, perhaps, be going too far to say that the road to hell is paved with no controls . . . psychiatry is in danger of becoming a foetid quagmire of anecdotalism. In this respect, it is not so very different from other branches of medicine; other specialties, however, have the enormous advantage of having objective tests which can serve as a final court of appeal. These were lacking, by and large, a century ago when the field of clinical medicine was just as full of vague, arbitrary, and dogmatic decisions as in Psychiatry today.

While we are on this subject of psychiatric research, I would direct your at-

tention to an item by Earl Ubell(17), the science editor of the *New York Herald Tribune* :

... a study of neurotics conducted at the University of Leeds, England ... served as both a shock and reminder of how tenuous is the evidence on which theory and practice of psychology and psychiatry rest. The investigation revealed that neurotics—those patients with relatively mild mental disturbances—could get better without any treatment at an amazing rate. Two-thirds of the untreated patients recovered or improved within three years.

Such a rate of recovery is almost identical to that reported by psychiatrists and psychologists who have treated patients by a technique known as psychotherapy. In case a treatment gives the same result as no-treatment, one would find it quite difficult to say, on scientific grounds, that the treatment was effective.

Of course, the issue is not quite so simple. In the first place there are many different forms of psychotherapy. From that administered to a patient lying on a couch and spewing out his dreams, thoughts and actions to give a Freudian analyst clues to his deep, unconscious motivations, psychotherapy ranges to the kind of guidance that a social worker gives a distressed client in a face-to-face interview.

If we turn for the moment to the public's attitude toward hospitals in general, we find that a study(8) "The Public Looks At Hospitals" conducted under the auspices of the National Opinion Research Center of the University of Chicago says :

that the bulk of the American public now holds positive attitudes toward hospitals (that is to say, non-psychiatric hospitals). There is almost no evidence of the fears that once existed. The public's widespread satisfaction with hospitals and its confidence in them is mirrored in its evaluation of local hospital facilities and of its own hospital experiences. While people are critical of the cost of hospitalization, and a significant minority is critical of local hospital facilities and of some aspects of hospital experience, these reactions seem to be mild. Few people are downright eager to be hospitalized and many may be reluctant to be, but few are so strongly motivated that they refuse hospitalization. Little seems to remain of the old stereotype of the hospital as a place from which no one returns.

Contrast that, however, with the statement(16) :

Mental hospitals have been, and often unfortunately still are, appalling places. It is ridiculous that in a society such as ours such conditions should exist today. They must cease, and mental hospitals must become first-rate hospitals. When this happens an ugly dichotomy in our profession may disappear. I refer to the fact that we are now developing two classes in our profession : the general hospital psychiatrist and the mental hospital psychiatrist. When some years ago I asked a very bright, experienced and well qualified general hospital psychiatrist why he had never entered a mental hospital, he replied, "I feel I'm working at the coalface of psychiatry here." To my mind there can be no question of working at the coalface of psychiatry anywhere until we find some coal, and that is at least as likely to happen in the mental hospital as in the general one.

Private psychiatric hospitals do not escape scathing criticism :

Beyond their avowed purposes, public and private institutions have little in common. The responsibility of the private hospital ceases when the patient or his family is unable to pay the bill. After a patient's financial resources are exhausted, in practically all cases, he is discharged or transferred to a public hospital. Pay or get out is the rule.

One private psychiatric hospital observer (4) says,

The private psychiatric hospital has been looked on as providing essentially individual medical services for a small, selected group on the basis of financial ability, and thus beyond the financial capacity of the average citizen. Hostility, envy, and isolation, become the accompaniments.

The private psychiatric hospital setting has been described by a research team at Yale (10) :

The patients are accommodated in physical settings which appear to range from luxurious cottages on skillfully landscaped country estates to dismal, decaying old mansions that are almost as poorly maintained as the state hospital.

There is no point in belaboring this negative image of the psychiatric hospital and

I would turn to the critic-at-large column by Brooks Atkinson(2) written in the *New York Times*, February 23rd, 1962 :

For even a private hospital is a public institution of a unique kind. Although it is ignored by people as long as they are in good health, it becomes an intimate part of their lives when they or members of the family need it. If the personality of the hospital is callous, their misery is compounded by many intangible evasions ; and every patient becomes an island of despair in a sea of loneliness.

How different is this from the comments by Dana Farnsworth(7) at the 1960 Mental Hospital Institute :

Few of the personnel in mental hospitals seem to feel that parents or other relatives matter. Others that are not relatives but do have a legitimate concern for the patient's welfare are also passed around from person to person. Friendliness is of little moment, even in situations in which patients are not involved. Some doctors are so preoccupied with the dynamics of the patient's illnesses that they have little time for the small amenities and common courtesies that mean so much to patients and relatives. Patients are tossed back and forth between therapists and administrators. There is little evidence of humanity, love, or personal concern for patients. Patients are not aware of what they may reasonably expect in hospitals. Conditions in admitting rooms are depressing. Referring physicians are so seldom given reports of their patients' progress. Patients are shorn of their personal dignity as well as most of their possessions when admitted to a mental hospital. Most doctors are courteous but other staff members often give one quite a hard time.

Farnsworth went on to say that his initial reaction to these criticisms was that they were unfair. That he could not avoid the stubborn fact that many persons believe these and even worse things about mental hospitals. What was even more embarrassing to him was that in many state hospitals these and even worse conditions do exist, and that in the very best hospitals some of these conditions exist for at least part of the time.

And now a word or two about our patients. How do they cast their image ?

You are about to see the most shameful, the most wasteful, thing in the country today. People who are sick and miserable just live to vegetate. Partly no one knows what to do for them. Mostly, nobody is even trying. They lie on the floor or they sit. They don't do much else. Most of them don't even have shoes to wear, and many of them haven't been outdoors in years. Maybe it's not too late for some of them. Maybe we can help. But remember this : they are human beings, just like you and me. They have their hopes, aspirations, their fears. They are not monsters. They have their problems, just as you and I have, only theirs are magnified.

You'll see them now. You will smell the foul air they must breathe all day. You will see the rotten chairs they use and the rags they wear. As citizens of this country, I want you to know that I hold each one of you personally responsible for this thing(13).

These are the words of a college student who has been working as a volunteer attendant in a mental hospital. And he used these words to introduce other student volunteers to the back wards of a state mental hospital.

Perhaps a letter from a patient in one of America's oldest and most respected hospitals tells us more eloquently than any, how psychiatric patients see us and themselves(14) :

Psychiatry is mediocre or poor because the doctors are overburdened. Rehabilitation and research hardly manage to crawl at snail's pace. Room and board and diversions have improved but the alleviation of human misery, particularly of mind, heart and spirit, shows no appreciable gains. Daily environment and routine after a year causes each day to seem the same, regardless of any diversions. Time seems to stand still, drag interminably, or take flight. Either way, it causes a feeling of irretrievable loss. One realizes he is aging, and the older he becomes while in the institution the more difficult, if not impossible, it will be if he is fortunate enough to obtain release, to secure a livelihood and adjust to the rapidly changing times of a critical era in our country's history. Many patients have to stay in a mental hospital for the remainder of their lives because they are outcasts, rejected, poor, aged, forsaken and forgotten and without any means or kin whatever.

One sees an elderly patient drop dead upon the floor amid the stench and din of a roach

ridden ward, or die gradually after weeks, months or years of debilitating ailments, and one can't help asking himself, "Will that be me?" In the dead or dying patient, he sees himself after the passage of several years or decades.

I am ugly, of meager education, poor voice, no home, wife and family, rejected by kin, have little money, no livelihood, no freedom and independence, no normal life. I am nothing, except in the eyes of God. I must make do with what I have—an able mind and the knowledge of suffering. What I can do to help others and bring happiness I do, and I consider myself rich.

I can see that my bleak plight here is rendering my efforts futile, daily my lot becomes more lonely and desperate. I can only hope my suffering will not be in vain—but will mean courage, solace, help and hope for others. The bitter cry of anguish you hear is not mine alone, but that of all who are stranded and abandoned.

The Joint Commission on Mental Illness and Health in its final report, *Action for Mental Health*(1) tells us about public attitudes toward the mentally ill :

One reason the public does not react desirably is that the mentally ill lack appeal. They eventually become a nuisance to other people and are generally treated as such. In contrast, it is the special view of the mental health worker that people should understand and accept the mentally ill and do something about their plight. People do seem to feel sorry for them ; but in the balance, they do not feel as sorry as they do relieved to have out of the way persons whose behavior disturbs and offends them.

While there are some who feel that there is less rejection of the mentally ill and the mentally defective than formerly, we cannot but heed Rene Dubos(5) writing in his *Mirage of Health* :

Like all quantitative statements pertaining to human affairs . . . enumeration of disturbed persons in psychiatric beds gives but a distorted impression of the change in the incidence of mental diseases in modern times—The village fool who used to be an accepted member of any rural setting, the semi-senile oldster who was expected to spend his last years rocking on the porch of the family homestead, and even the timid soul who escaped competition by retiring into a sheltered home atmosphere are likely now to become

inmates of mental institutions because they cannot find a safe place in the crowded high-pressure environment of modern life. Thus, the problem of our time may be less an actual increase in the numbers of mental defectives than a decrease in the tolerance of society for them.

And as I bring my remarks to a close, I present you with a young psychiatrist's view of his profession(3) :

Ideas need the backing of institutions and firm social approval if they are to result in practical application. Yet I see pharisaic temples being built everywhere in psychiatry ; pick up our journals and you will see meetings listed almost every week of the year and pages filled with the abstracts of papers presented at them. These demand precious time in attendance and reading, and such time is squandered all too readily these days. Who of us, even scanting sleep, can keep up with this monthly tidal wave of minute repetitive studies? And who among us doesn't smile or shrug as he skims the pages, and suddenly leap with hunger at the lonely monograph that really says something? As psychiatrists we need to be in touch not only with out patients but with the entire range of human activity. We need time to see a play or read a poem, yet daily we sit tied to our chairs, listening and talking for hours on end. While this is surely a problem for all professions, it is particularly deadening for one which deals so intimately with people and which requires that its members themselves be alive and alert.

It seems to me that psychiatric institutions and societies too soon become bureaucracies, emphasizing form, detail, and compliance. They also breed the idea that legislation or grants of money for expansion of laboratories and buildings will provide answers where true knowledge is lacking. Whereas we desperately need more money for facilities and training for treatment programs, there can be a vicious circle of more dollars for more specialized projects producing more articles about less and less, and it may be that some projects are contrived to attract money and expand institutions rather than to form any spontaneous intellectual drive. We argue longer and harder about incidentals, such as whether our patients sit up or lie down ; whether we should accept or reject their gifts or answer their letters, how our offices should be decorated ; or how we should talk to patients when they arrive or leave. We debate

for hours about the difference between psychoanalysis and psychotherapy; about the advantages of seeing a person twice a week or three times a week, about whether we should give medications to people, and if so, in what way. For the plain fact is that as we draw near the bureaucratic and the institutionalized, we draw near quibbling. Maybe it is too late, and much of this cannot be stopped. But it may be pleasantly nostalgic, if not instructive, to recall Darwin sailing on the *Beagle*, or Freud writing spirited letters of discovery to a close friend, of Sir Alexander Fleming stumbling upon a mold of penicillin in his laboratory—all in so simple and creative a fashion, and all with so little red tape and money.

But is this young man hopeless, and has he an answer for us? I quote:

We cannot solve many problems, and there are the world and the stars to dwarf us and give us some humor about ourselves. But we can hope that, with some of the feeling of what Martin Buber calls "I-Thou" quietly and lovingly nurtured in some of our patients, there may be more friendliness about us. This would be no small happening, and it is for this that we must work. Alert against dryness and the stale, smiling with others and occasionally at ourselves, we can read and study; but maybe wince, shout, cry, and love, too. Really, there is much less to say than to affirm by living. I would hope that we would dare to accept ourselves fully and offer ourselves freely to a quizzical and apprehensive time and to uneasy and restless people.

So often it seems to me that psychiatry's images reflect a rigidity and a clinging to the *status quo* that I wonder if the time will ever come when we will trust ourselves enough to place our trust in others as well.

As a member of the Joint Commission on Mental Illness and Health I find myself in thorough agreement with the sentiment that we must rise above our self-preservative functions as members of different professions, social classes, and economic philosophies and illuminate the means of working together out of mutual respect for our fellow man. Can anyone quarrel with the notion that we each have a responsibility that is common to all—our responsibility as citizens of a democratic nation founded out of faith in the uniqueness, integrity and dignity of human life?

I will conclude as I began by quoting Alan Gregg(9) at the the centenary meeting of the American Psychiatric Association:

Yours has been a long struggle waged with patient heroism, none the less admirable for being at times perhaps despondent and bewildered. Nor is it as yet a battle fully won. So-called mental diseases are still regarded by mankind with fear, aversion and ostracism, and society still pays the inexorable penalties of him who fights and runs away, and so might fight another day.

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OBSERVATIONS ON THE NATURAL HISTORY OF HYSTERIA

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Among the most pressing problems in psychiatry is the need to establish valid and generally accepted diagnostic categories. As stated in a recent GAP report, "The problem is not merely the establishment of clearer definitions of diagnostic entities and their communication to psychiatrists and other physicians, but it also involves agreement upon a nomenclature which will be maintained without change over a prolonged period"(1). Grinker and his colleagues(2) have recently discussed this question, particularly as it applies to depressions, from essentially the same point of view. Ultimately, psychiatrists and other physicians will accept and maintain diagnostic categories if their validity has been established.

A diagnosis may be looked upon as a prediction. It may predict which etiologic factors will be found causing the disorder; it may predict what will be found when the pathogenesis and pathologic processes underlying the symptoms are studied; it may predict what will be the prognosis of the disorder under various conditions of treatment or lack of it; and it may predict what kinds of disorders will be found in the close relatives of the patients with a particular disorder.

At the present time, for most psychiatric illnesses, little is known about etiology and pathogenesis so that the validity of a diagnostic category generally depends upon demonstrating that patients with a particular diagnosis have a fairly uniform course (in response to treatment or the lack of it) or that certain characteristic disorders will be found in their close relatives.

We have been interested in studying hysteria in order to establish diagnostic criteria that will meet such standards of validity. Turning to the literature, it is apparent that a major source of difficulty is caused by a semantic issue. Some authors(3-7) use the terms hysteria and conversion reaction in-

terchangeably to refer only to individual symptoms that may be seen in a wide variety of disorders. These authors emphasize the varied clinical pictures seen in patients who present conversion symptoms, and one investigator(7) even suggests that perhaps the term hysteria be dropped because hysterical symptoms may be seen in so many different conditions. Other authors use the term hysteria(8-10) to refer to a distinct syndrome with characteristic symptoms and suggest that hysteria is a valid, recognizable, clinical entity.

In attempting to clarify the issue, we have found it useful to retain both terms, conversion reaction and hysteria, but to assign separate meanings to each. We prefer to use the term conversion reaction (or symptom) in a solely descriptive manner to refer to a category of symptoms which usually includes unexplained blindness, diplopia, aphonia, urinary retention, paralyses, anesthesia, unsteady gait, fits, trances, amnesia, etc. This list is not exhaustive but includes the most striking examples of this group of symptoms. Unexplained in this context means that clinical examinations, x-rays and laboratory tests are all normal.

Conversion symptoms may be seen in hysteria. By hysteria we mean a *syndrome* described initially in 1849 by Briquet(8), characterized again in 1909 by Savill(9), and more recently redefined in a controlled study by Purtell, *et al.*(10), in 1951. These investigators delineated a clinical picture which starts early in life; occurs primarily, if not exclusively, in women; and is characterized by recurrent symptoms in many different organ systems. Included in the clinical history of such patients are: dramatically described symptoms, many and varied pains, menstrual disorders, sexual maladjustment, headaches, anxiety symptoms, frequent conversion reactions, excessive hospitalizations and excessive operations. A histrionic manner or attention-getting and manipulative behavior are common in this disorder though the diagnosis is not based, in the absence of the medical history,

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primarily upon the personality characteristics. Hysteria, as here defined, is a syndrome with a number of characteristic features, of which conversion symptoms are only one important part.

Accepting the usefulness of this differentiation between conversion reaction and hysteria, we have been engaged in a series of studies designed to clarify the nature of hysteria in terms of its diagnostic criteria, natural history, prognosis, and response to treatment.

A recent report from this department(11) described a follow-up study of a group of patients who were diagnosed as suffering from hysteria as defined above. The records of all patients seen in one section of the psychiatry clinic during an 18-month period were reviewed. There were 46 patients in whom the diagnosis of hysteria had been made or seriously suspected. Of this number, 39 (85%) were found and interviewed 6 to 8 years later. One patient had died, 1 patient refused to grant an interview, 3 patients had moved to distant states, and 2 patients could not be located. Each patient's record was re-evaluated and re-diagnosed in terms of how well the clinical pictures conformed to the detailed diagnostic criteria for hysteria enumerated in the previous report. In general, the criteria provided for including patients with a very varied, polysymptomatic disorder including multiple pains, menstrual difficulty, sexual problems, conversion symptoms, *etc.*

At the time of follow-up, the patients were studied by means of a structured, detailed psychiatric interview. The criteria for the follow-up diagnosis as well as the characteristics of the interview are described in the previous report. The follow-up interview was conducted without knowledge of any specific information of the past history except that the patient had experienced an illness for which the diagnosis of hysteria had been made or suspected. The purpose of the follow-up interview was to make a psychiatric diagnosis, where possible, based upon the entire history available from the patient at the time of follow-up without regard for the information available in the old clinic record. Specifically, the question asked was: if the diagnosis of hysteria is based upon certain specified criteria, will

the same diagnosis be apparent at follow-up or will some other illness be evident which might account for the symptoms present at the initial examination?

The results showed that when the diagnosis of hysteria is based upon the presence of the clinical picture already described, there is a 90% probability that the same diagnosis will be applicable 6 to 8 years later and that no other disorder will have become manifest to explain part or all of the original symptoms. Further, the results indicated that when the diagnosis of hysteria is rejected because of failure to fulfill the defined criteria, other illnesses that can explain some or all of the original complaints will become apparent in a significant portion of the cases. It was concluded, therefore, that hysteria, as here defined, is a distinct recognizable syndrome, which is very similar in its manifestations from patient to patient and which can be recognized by ordinary clinical examination. This uniformity of clinical picture is in striking contrast to the very varied clinical pictures seen when the term hysteria is used as a synonym for conversion reaction(3-7).

The previous report(11), as already noted, was concerned primarily with the follow-up diagnosis. This follow-up diagnosis was based upon the entire medical and psychiatric history obtained from the patient only at follow-up. In this paper the clinical course of patients with hysteria during the 6- to 8-year period following the initial diagnosis will be reviewed. In particular, what happens to the characteristic features of this illness after the diagnosis has been made will be described. Such information may enlarge our knowledge of the natural history of hysteria and contribute to attempts to establish valid criteria for its diagnosis. It is important to know, for example, whether hysteria is a disorder with exacerbations and remissions or whether it is a chronic, non-remitting condition.

In the previous study(11) 25 patients, all women, were found who fulfilled the diagnostic criteria in terms of the original clinical picture as well as at follow-up. The clinical course of these 25 patients will furnish the material for this report. Their records were reviewed and only relevant clin-

ical features that occurred subsequent to the initial psychiatric evaluation were noted, regardless of whether such features were present or absent at the initial examination.

The clinical manifestations that are most characteristic of the disorder were reviewed. They included continued medical consultation, hospitalizations, headaches, abdominal and other pains, vomiting, menstrual disorders, sexual and marital difficulties, conversion symptoms, suicide attempts, and overall state of health. In addition, experiences with EST and psychotherapy were noted.

Medical Care. Twenty-three or 92% of the sample continued to consult physicians during the period of follow-up. Furthermore, 5 women or 20% consulted osteopaths and 10 or 40% consulted chiropractors. We do not have complete data concerning frequency of consultation for all the women but, in general, these patients saw many physicians repeatedly during the 6-8 years.

Hospitalizations. Of the 25 women, only 5 or 20% had not been hospitalized at all during these years. Thus 20 women or 80% were hospitalized for some condition (other than normal pregnancy). Fourteen women, 56%, had been hospitalized 27 times in a general hospital for non-surgical conditions exclusive of normal deliveries. Twelve women, 48%, had been hospitalized 21 times for an operation. Four women, 16%, had been hospitalized 5 times in a psychiatric hospital. There were, thus, 53 hospitalizations for the 25 women for a rate of 2.1 hospitalizations per patient for the 6-8 years of follow-up. Three of the 4 women who had been hospitalized in mental hospitals had also been hospitalized in general hospitals for both surgical and non-surgical conditions. These 3 women had had 5 surgical hospitalizations and 5 non-surgical hospitalizations. The fourth woman who had been hospitalized in a psychiatric hospital had not had other hospitalizations during these years.

Headache, Abdominal and Other Pains, and Vomiting. These symptoms were scored as positive only if the patient reported that they led to consulting a physician, required medication, or were disabling to the extent that they interfered with normal ac-

tivities. Fourteen or 56% of the patients suffered from headaches, 18 or 72% from abdominal pains, 16 or 64% from back pains, and 18 or 72% from other pains such as joint pain, extremity pain or chest pain. Six or 24% of the patients suffered from vomiting spells. Twenty-two or 88% complained of some pain other than headache, 19 or 76% complained of two or more pains other than headache, and 12 or 48% complained of 3 or more pains other than headache. There were only 2 patients or 8% who denied headaches, other pains and vomiting during these years.

Menstrual Symptoms. Of the 20 women who were not post-menopausal during the entire follow-up period, 16 or 80% complained of menstrual difficulty, chiefly dysmenorrhea with some menstrual irregularity and some excessive bleeding.

Sexual and Marital Adjustment. Three of the women were divorced or separated at the time of the initial psychiatric study and remained in this status throughout the period of follow-up. An additional woman became a widow early in the course of the follow-up period. These 4 women denied having sexual relations during these years. Of the remaining 21 women, 16 complained of sexual indifference and frigidity (11 women) or dyspareunia (9 women). Thus 76% of the women who were experiencing regular sexual relations reported sexual maladjustment.

This sexual difficulty was associated with a high percentage of marital discord. As already noted, 3 women were already divorced or separated at the time of initial evaluation. Ten of the remaining 22 reported considerable marital difficulty during the follow-up period leading to divorce in 5 women (2 women had 2 divorces each) and separation in an additional 2 women. Thus 7 of 22 women (31%) reported marital trouble leading to divorce or separation subsequent to the initial evaluation; and 10 of 25 (40%) were or had been divorced or separated at the time of follow-up.

Conversion Symptoms. Twelve women (48%) reported one or more conversion symptoms during this period; 5 women (25%) reported more than one. There were 16 conversion symptoms reported including diplopia once, aphonia 5 times, blindness 5

times, paralysis once, anesthesia once, and "blackout" spells or "fits" 3 times.

Suicide Attempts. Only 1 woman reported a suicide attempt during this period.

Freedom from Symptoms. Only 1 patient regarded herself as well at the time of follow-up; she claimed to have been well for several years. Her story is difficult to evaluate, however, in view of her repeated unwillingness to cooperate with the study. She was married to her third husband and did not want him to know about her previous marriages. She also apparently did not want him to know about her previous psychiatric difficulties. Her behavior indicated a desire to rush through the interview as rapidly as possible so as to be rid of the interviewer.

Two other patients reported that they were much better than they had been but a detailed inquiry indicated that they were still not symptom-free. It is noteworthy, however, that these 2 patients reported no hospitalizations during this period which supported their statements of feeling better.

The remaining 22 patients continued to be sick without significant change. Their histories indicated that they had not had a symptom-free year during the period of follow-up.

Electroshock Treatments. Two women had received EST during each of 3 psychiatric hospitalizations. These women reported that the EST helped with some of their symptoms only, chiefly depressed feelings and crying spells. It was not possible to evaluate the duration and degree of improvement since the EST had been administered several years before in each case.

Psychotherapy. Only 5 patients were seen in psychotherapeutic interviews more than a few times. Four patients pursued psychotherapeutic efforts for several months and 1 patient for about a year. While all 25 women had been offered psychiatric treatment, few of them accepted its validity and they nearly always discontinued the visits because they believed them to be unnecessary or ineffective.

DISCUSSION

It is apparent that repeated consulting of physicians; repeated hospitalizations and operations; persistent headaches, abdomi-

nal pains, back pains, other pains, and vomiting spells; continuing menstrual disorders and sexual maladjustments; further conversion symptoms; and limited, if any, acceptance of a psychiatric explanation for their symptoms characterized the 6- to 8-year period of these women between their initial psychiatric evaluation and diagnosis and their follow-up evaluation and diagnosis. That is to say, these women continued to experience the typical symptoms of the illness, essentially without remission in all but one case, following the establishment of the psychiatric diagnosis.

These women had been sick for many years: 9 or 36% reported that their illness began before age 20, 20 or 80% were sick before age 26, and only 2 or 8% reported the onset of their illness after age 30. The mean age of these women at the time of the initial psychiatric evaluation was between 40 and 41. Their mean age at the time of follow-up was just under 48. It is thus apparent that this disorder had been present for a long time when they were psychiatrically evaluated initially, and that at the time of follow-up, the mean duration of illness was well over 20 years, while for about a third of the women, the illness had been present for over 30 years by the time of the follow-up interview. There was no indication that these women, with the single exception described above, had ever had a complete remission of their illnesses which lasted as long as one year.

When we combine the findings from the previous study(11) and the results of this investigation the following may be concluded. The clinical picture of hysteria described by the previous authors(8-10) is a recognizable syndrome that may be diagnosed by any physician familiar with the diagnostic criteria. It characteristically is seen in females. It begins early in life—usually before age 20 and nearly always before age 30. It is not a monosymptomatic disorder but rather presents with multiple symptoms in many different organ systems. Among its most striking features are excessive hospitalizations, excessive surgery, many and varied pains, menstrual and sexual problems, conversion symptoms and a long history of ill health. This syndrome runs a chronic course of many years dura-

tion without appreciable remissions. The characteristic, diagnostic symptoms continue to beset the affected patients even after many years of illness. (One patient's illness had begun in her teens and at the time of follow-up, she was 65 and still suffering from the characteristic symptoms.) Even after psychiatric referral, consultation and diagnosis, these patients continue to consult other physicians for the same complaints and continue to be hospitalized and operated upon frequently. Very few of them appear interested in psychotherapy, and most reject a psychiatric approach to their complaints. In fact, refusal to accept a psychiatric approach to their condition appears to be characteristic of the patients with this disorder. Patients who receive a diagnosis of hysteria according to these criteria do not turn out to have other illnesses—psychiatric, neurologic, or medical—that might account for their characteristic symptoms.

The marked variability in clinical picture and prognosis seen when conversion symptoms are taken as the starting point in an investigation, when contrasted to the results of our studies with hysteria, testifies to the usefulness of distinguishing between hysteria, as here defined, a syndrome with a characteristic clinical picture and prognosis and conversion reactions which may be part of the clinical picture of many different disorders.

Our own studies (12) and clinical observations confirm the experience of others that patients with conversion reactions may turn out to have any of a wide range of disorders. We and others have seen such conversion symptoms in the following disorders in addition to hysteria: schizophrenia, sociopathy, drug addiction, alcoholism, drug reactions, dementia, and in patients who are later found to have multiple sclerosis, hyperparathyroidism, porphyria, brain tumor, leukemia, *etc.*

The fact that a follow-up of patients with hysteria did not reveal such a varied outcome and that other disorders that might have caused the original symptoms were not found suggests that there is considerable "practical" value in these diagnostic criteria. Increased precision of diagnosis, in addition to such immediate clinical use-

fulness, should permit resolution of a number of conflicting points of view in the literature. For example, the question as to whether or not hysteria may be seen in males (13) may simply be a matter of definition: hysteria, as here defined, rarely if ever is seen in males, whereas men may certainly suffer from any of the other disorders in which conversion symptoms are seen, such as compensation neurosis, schizophrenia, sociopathy, *etc.*

These studies, then, represent early steps in the process of clarifying this clinical disorder. The diagnostic criteria require further analysis to make them more precise and free from ambiguity. More detailed prospective studies of cohorts of patients diagnosed as suffering from hysteria need to be carried out to verify these results. We are presently in the midst of such a long-term follow-up. Furthermore, we are studying the close relatives of patients with hysteria, looking for the presence of various psychiatric illnesses.

SUMMARY

This study, based upon a 6- to 8-year follow-up of 25 patients, who were diagnosed as suffering from hysteria originally, and again at follow-up, resulted in the following conclusions: 1. Hysteria, as here defined, is a distinct, recognizable syndrome which is very similar in its clinical features from patient to patient; 2. Hysteria is a chronic illness which lasts many years and which is nearly always free from significant remissions; 3. Hysteria is a multisymptomatic syndrome which can and should be distinguished from conversion reactions, which are individual symptoms found in many disorders in addition to hysteria.

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ADDICTIVE ASPECTS IN HEAVY CIGARETTE SMOKING¹

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Tobacco consumption, known to civilized man for less than 500 years, has increased dramatically. In the United States alone during the past half century, annual production has leaped from 8.6 to 355 billion cigarettes, a thirty-fold increase *per capita* (19). It has grown, one might say, like a weed. So has the debate about its essential nature—whether it is virtue or vice, blessing or curse, soothing remedy or addictive drug. The encyclopedic review of Larson, Haag, and Silvette investigates the expanding mass of scientific evidence bearing on tobacco in general, as well as the particular controversy about its addictive properties (20).

In part, the latter centers around definition. Tobacco does not invariably lead to progressive physical dependence. Many workers, however (16, 17), argue for a definition of addiction which goes beyond that single characteristic like the one established by the WHO. In brief, this includes: 1. "A state of periodic or chronic intoxication detrimental to the individual and to society produced by repeated consumption of a drug"; 2. "A compulsion to continue taking the drug"; 3. "A tendency to increase the dose"; and 4. "A psychic and sometimes physical dependence on the effects of the drug." So defined, the tobacco "habit" in certain individuals does appear to attain the status of an addiction.³

Nicotine is an active agent (though not

necessarily the only noxious agent in tobacco); it appears to have certain addictive qualities. Tolerance develops to some of its effects—such as nausea, so that it can be consumed in ever greater amounts—but not to other effects, particularly those in the cardiovascular sphere (1, 23, 27, 28, 30, 31, 33). The cardiovascular evidence consistently shows that roughly 20 minutes after smoking, a gradual sympathetic-like constriction of the peripheral vascular bed and acceleration of heart rate develops, then subsides. These effects can be duplicated by parenteral administration of nicotine, not, according to most workers, by sham smoking or by smoking of de-nicotinized preparations.

Some evidence (14) suggests that repeated injections of nicotine can lead to an addictive state. Substitution of low nicotine cigarettes for their regular brand in a prolonged experiment conducted by Finnegin, Larson, and Haag (7) led to clear distress in some subjects, though not in all. Interpersonal variations, suggested by the latter experiment, are of great importance in assessing tobacco usage as a whole. Differences exist in total amount smoked and in whether or not smoking is accompanied by inhalation, which is estimated to increase the nicotine absorption by a factor of 2 or 3. However, among heavy smokers, who have more trouble giving up cigarettes than do light smokers (25), withdrawal effects can be marked. Irritability, sleep disturbance, impaired concentration and memory, anxiety, restlessness and intense craving for tobacco, particularly experienced in the oral and respiratory tracts, as well as distorted time perception have been described (20). Accompanying these symptoms are reported signs of gastro-intestinal instability, profuse sweating, and particularly cardiovascular manifestations, chiefly a fall in pulse rate, by Head (12), Hansel (11), and Larson, *et al.* (20). Our own attention was drawn to these particular effects by personal experience. One of us, formerly a

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³ For semantic reasons, other authors would still insist on speaking of "addiction and/or habituation."

heavy smoker, stopped abruptly and noted a drop in pulse from the low 70's to the high 40's in the ensuing 2-day period.

Thus considerable evidence suggests that true physical dependence may develop to tobacco. We undertook to study this by observing a group of heavy cigarette smokers during an imposed state of withdrawal. Our hypothesis was that we would find cardiovascular manifestations which were, broadly speaking, vagotonic. Our exploratory aim was to see whether such physiologic features might fit with other patterns, acute or chronic, suggesting addictive behavior.

METHOD

Two experiments were carried out. Heavy cigarette smokers were defined as individuals smoking more than 2 packages a day for at least 5 years, and inhaling. All subjects were male. They ranged in age from 18 to 54 years. They were screened to exclude hypertension or other gross cardiovascular or medical illness.

The first experiment used 26 paid volunteers from the State Unemployment rolls. They were observed in 5 groups in successive weeks. Each group was under observation for 10 hours a day during a continuous 5-day period. Two of these groups (11 subjects) were controls, allowed to smoke *ad libitum* throughout the 5-day period. Three groups (15 subjects) were asked suddenly to stop smoking for the last 3 days of observation. Pulse rates were taken 6 times daily and blood pressure readings 3 times daily during each 10-hour interval. The experimenters also gave each subject a daily battery of psychomotor tests,⁴ a self-rating mood questionnaire, interviewed them semiformally at the time of testing, and conversed with them informally throughout the test week.

A second experiment was carried out to replicate the cardiovascular findings obtained in the first experiment and to differentiate between withdrawal of nicotine per se and other aspects of the experimental situation. Subjects in this subsequent experi-

ment were 17 unpaid volunteers from the open Neuropsychiatric Service of the Boston VA Hospital. They were studied less intensively, without psychologic testing, the primary focus being on repeated pulse and blood pressure determinations. They were comparable to the earlier subjects in age, socio-economic class, and marital status; none was receiving psychotropic drugs. During 5 continuous days, they were allowed to smoke 2 sets of cigarettes identical in appearance. These had high and low nicotine content respectively (1.75 mg. as against 0.4 mg. in main stream smoke). Roughly one third of the subjects served as controls and smoked high nicotine cigarettes throughout the week. Two thirds smoked low nicotine cigarettes which were substituted, without the subjects' knowledge, at two different intervals during the week.

Subjects were urged to talk freely about any lapses and assured that they would not be punished for them. Five subjects, who had agreed to stop, admitted that during the nights, while away from continuous observation, they had smoked a few cigarettes, the number varying from ½ to 12. Four others reported occasional nocturnal "drugs." Morale and cooperation appeared excellent; strong internal evidence thus suggested that their accounts were accurate. Any lapses, it should be noted, would make our initial hypothesis (of finding abstinence effects) less likely, not more likely, to be confirmed.

RESULTS

1. *Cardiovascular.* In the first experiment control and experimental subjects showed no significant differences (by "t" test) at the start of the study, on so-called "basal" days, but there was a striking difference between the two groups on the last 3, or "test," days. The mean pulse rate actually rose in the control subjects during the "test" period whereas it showed a perceptible drop in the experimental subjects. At times this was dramatic, nearly 20 beats per minute. Both diastolic and systolic pressures dropped slightly in the controls, and more markedly in the experimental subjects.

Paired data analysis, comparing the differences between each group's levels for

⁴ The battery consisted of: serial 7 subtractions, digit span, tapping speed, continuous addition, digit copying and digit symbol test.

the first 2 days and the last 3 days is shown and the smaller number of subjects, a trend in the same direction is seen in the in Table 1. The two groups are differenti-

TABLE 1
Cessation of Smoking
Cardiovascular Effects
Paired Data Analysis: Basal vs. Test Days

	MEAN DIFFERENCES				COMPARISON OF DIFFERENCES	
	A) CONTROL (NON-DEPRIVED) N=11		B) EXPERIMENTAL (DEPRIVED) N=15		(A)-(B)	P
	DIFFERENCE: BASAL-TEST DAYS	P	DIFFERENCE: BASAL-TEST DAYS	P		
Pulse rate	-2.38	.2	6.46	<.001	8.84	<.001
Diastolic B.P.	2.13	.1-.05	4.73	.01	2.60	.02-.01
Systolic B.P.	1.54	>.3	5.60	.02	4.06	.1-.05

ated at highly significant levels with respect to pulse data ($p < .001$), at significant levels with respect to diastolic blood pressure ($p = .02-.01$), and show a strong trend in the same direction with respect to systolic blood pressure ($p = .1-.05$).

The 17 subjects in the second experiment also were statistically indistinguishable on "basal" days in which they all smoked *ad libitum*. Paired data analysis was carried out as before. The experimental subjects, on "test" or "low nicotine" days, showed a slowing of pulse rates which significantly differentiated them from the controls. Again, despite more variability in the circumstances

blood pressure readings, which declined in both groups but more markedly in the experimental subjects.

2. *Behavioral Results.* These subjects reflected qualities of the populations from which they were drawn, and gave considerable general evidence of personality disturbance, more overtly neurotic in the VA patients, and verging more on delinquency in the unemployed volunteers. Among the latter, four could be classified as present or former alcoholics; two gave evidence of past addiction to other drugs.

The only psychologic test which clearly distinguished between experimental and

TABLE 2
Low Nicotine Cigarettes
Cardiovascular Effects
Paired Data Analysis: High Nicotine vs. Low Nicotine Days

	MEAN DIFFERENCES				COMPARISON OF DIFFERENCES	
	A) CONTROL (HIGH NICOTINE THROUGHOUT) N=7		B) EXPERIMENTAL (LOW NICOTINE SUBSTITUTED) N=10		(A)-(B)	P
	DIFFERENCE: BASAL-TEST DAYS	P	DIFFERENCE: BASAL-TEST DAYS	P		
Pulse rate	-0.66	>.5	6.83	.001-.005	7.49	<.001
Diastolic B.P.	0.50	>.5	1.73	.05-.1	1.23	.3-.4
Systolic B.P.	2.63	.1-.2	3.12	.05-.1	.49	>.5

control subjects was the self-rating mood scale. The experimental group indicated significantly more often that they were *not* experiencing negative emotions of anxiety, hostility and depression.

In general they showed marked *denial* of concern about any discomfort during the testing, as well as about any dangers connected with tobacco. Latent anxiety, however, was readily mobilized by questioning. Five subjects revealed the fear that they actually had cancer. Many others skirted around the subject of lung disease. Forty percent of them spoke of hoping to avoid such illness by the naive expedient of switching brands. In one group an experimental subject took a puff from a cigarette one night, then became acutely ill and vomited. A minor epidemic started; another subject vomited, and still two others complained of severe nausea.

During their start of abstinence experimental subjects had many complaints referable to the stomach, "emptiness," "gnawing" or "hungry" feelings. These may possibly be related to lack of nicotine, which habitually suppresses gastric activity. At times these sensations were also referred to the lungs. One subject spoke about his lungs being as "empty as the Empire State Building"; another talked about how "open to the outside air" he felt. Experimental subjects also described vague restlessness and discomfort on "test" days. Six of them spoke about time moving slowly. Some subjects also spoke of a feeling of loss. Several carried cigarettes around with them, touched them and smelled them. Some described looking for satisfaction in food. Others referred to the loss in more personal terms. "A cigarette is like a companion," said one; another described his state of abstinence as "like not being able to call on a friend."

These feelings during abstinence seemed relatively mild. Possibly aided by the supportive group situation our subjects gave up smoking with apparent ease for the time being. At the conclusion, however, they usually pocketed their last day's pay and walked away lighting a cigarette.

We obtained some information about special meanings of smoking to given individuals. Several talked about times they

had started or stopped smoking, apparently in response to their relationship to other persons, for example, one man who had given up cigarettes twice "for a girl," only to resume smoking when the relationships had been broken. In addition to the feelings of emptiness and the craving to take something in, many subjects also referred to the satisfaction obtained from various sensory avenues. They described relief of tension from having "something to do with your hands." Our subjects stressed pleasurable aspects of smoking less than their "need" to smoke for relief of tension, even when smoking itself had become for a time unpleasant. Cigarettes might make them "jittery" but they still would feel compelled to smoke them. Similarly, as to the cigarette before breakfast: even while acknowledging that a cigarette under those circumstances "tastes terrible," several said, "It wakes me up."

DISCUSSION

This study dealt with heavy smokers, who may well form a special group or at least occupy a particular position in the range of smokers (6, 20, 24, 25). Additional studies, comparing them with mild smokers or non-smokers, are needed. Furthermore, our subjects were unemployed or hospitalized for neurotic disability. We cannot be sure how characteristic the features they showed may or may not be even of all heavy smokers.

Nevertheless, our findings did confirm in a statistically manageable sample the physiologic effect reported by several other authors as characteristic of the state of acute abstinence. The clear-cut cardiac deceleration, the trend toward drop in blood pressure are consistent with a relative decrease in sympathetic nervous system activity. Although this varied somewhat from individual to individual, it is clearly present in both experiments. The second group, for whom only nicotine dosage was manipulated, served both to replicate the earlier finding and to indicate that it was not a function of the experimental situation but, in fact, related to the pharmacologic action of nicotine.

The finding suggests that its opposite, namely chronic hyperactivity of the sym-

pathetic nervous system, exists in heavy smokers. The resting mean pulse rate levels in the 75-85 per minute range for these men sitting quietly and doing very little for a 5-day period are high normal. Persistent reports suggest an increase in cardiovascular disease among smokers in the British literature(19) and in studies from the United States(10), particularly the recent summary of the combined experience of two large prospective investigations (5). The latter report based on more than 4000 men showed that "heavy cigarette smokers experienced a three-fold increase in the incidence of myocardial infarction and in death from all causes as compared to non-smokers, pipe and cigar smokers and former cigarette smokers." It still may be that both smoking and heart disease reflect a common underlying factor—the possibility raised by Fisher(20), Eysenck(6), Kissen(15), and others with respect to the association between smoking and lung cancer. However, our evidence at least is consistent with the existence of "chronic intoxication" in the heavy smoker, which is harmful to the smoker himself.

Our subjects also showed a compulsion to continue to smoke in increasing amounts. It could be overcome temporarily. The unmasking of anxieties about possible harmful effects may have contributed to some more lasting change in smoking habits among these heavy smokers, a third of whom indicated by a follow-up after 2 weeks that they were smoking "less." More systematic therapeutic effort may accomplish more. Lawton(21) who carried out group therapy with 19 smokers found that over 50% reported abstinence 2 weeks after termination.

Nevertheless, the habit is notoriously persistent and recurrent. One of us could testify to its tenacity. Six and one-half years after total cessation of heavy smoking, cigarettes were still occasionally appearing in stereotyped smoking dreams. These always represented a situation of some social stress and always had a similar content. Profuse smoking was accompanied by many self-reassurances and subjective conviction: "I have never *really* stopped smoking; I have always had a cigarette now and then." This in an individual whose waking hours

are dominated by complete unawareness of any subjective desire to smoke. We agree with Lawton(21) that the smoking habit has roots in the body, which ramify in unconscious strata of the personality.

As to the nature of this obscure dependence we have more questions than answers. To what extent is an addictive element present in other than heavy smokers? What is the relative proportion of "lusty" as opposed to "tense" smokers—to use the phrase of Kahn and Gildea(20). We speculate that pleasure, originally neurologically mediated, comes, in the heavy smoker, under the domination of needs to avoid distress, including distress stemming from social discomfort, faulty relationships, loneliness and depression.

Our physiologic findings perhaps permit one further speculation. An important effect of smoking appears to be sympathomimetic (29). Though addiction is usually thought of as involving drugs that produce euphoria or at least sleep, it can occur, perhaps in a form more easy to overcome, in relation to stimulants. Cocaine is the most extreme example. Less dramatic sympathetic nervous system effects, leading to a "keyed-up" state, can be sought out by many individuals and abetted by a variety of agents. It is interesting that Miller(26) treated 24 smokers with benzedrine sulfate in the acute abstinence period and reported avoidance of withdrawal symptoms. Hansel(11) recommends the same treatment. We were struck by these reports because the state of hyperactivity and continuous arousal which we postulate as part of the desired effect in the heavy smoker is similar to that described by one of us elsewhere in a group of mild but persistent addicts who used amphetamine(16).

These amphetamine devotees had many of the "oral" infantile features described in the general group of addicts(4). The actual sympathomimetic drug, however, seemed to be used largely to defend against the regressive, passive longings for bliss, nirvana or sleep—and rather as Szasz has pointed out also(32), to enable the users to remain active. Many of the same features are observed in smokers. Smoking seldom occurs in clearly regressive outbursts. Indeed, the feature that may make it par-

ticularly hard to eliminate the habit is the fact that it never comes to the type of orgasmic climax described particularly by Chessick(4) in heroin addicts. Instead, the heavy smoker, who is likely to smoke at least 2 or 3 cigarettes hourly throughout his waking life, manages to sustain the 20-minute peak of nicotine action more or less continuously.

A number of authors(20, 29) have suggested that tobacco is both a "tranquilizing" and a "stimulant" drug. Our suggestion is that the relaxing aspects of smoking may come largely from the act itself, the opportunity for motor expression, the deep inhalation, the sucking of something into the lungs passively. The stimulant effect, we suggest, comes more from the actual pharmacologic action of nicotine. The combination permits a certain compromise formation in the act of smoking. Along with the passive, relaxing satisfaction, there is the dim awareness, even anticipation, of an opposite type of effect, of generalized arousal, to follow. In any given subject, or at any given time, one or the other aspect may be uppermost. Both are important in the total picture of continued craving and dependence.

SUMMARY AND CONCLUSIONS

1. Fifteen heavy smokers were observed in a state of sudden abstinence, and contrasted with a comparable group of 11 subjects allowed to smoke *ad libitum*. Cardiac slowing, presumably vagotonic, and a lowering of diastolic blood pressure was found in the experimental group. Other less clear-cut complaints of distress, such as "emptiness," and slow passage of time, seemed related to the state of abstinence. The cardiovascular findings were replicated in a group switched under controlled, single-blind conditions from high nicotine to low nicotine cigarettes.

2. Heavy cigarette smokers thus appear to be true addicts, showing not only social habituation but mild physiologic withdrawal effects.

3. It would appear that the opposite of vagotonic action, namely chronic sympathetic stimulation, is one result of heavy smoking.

4. With appropriate motivation very heavy smoking can be given up, though just

as readily resumed. Concerns about the dangers of smoking, latent but readily mobilized in our population, are effectively masked by denial and related psychic defences. They must be unmasked to understand and treat heavy smoking, if treatment is desired.

5. Clinically, smoking appears to represent a complex learned psychosomatic pattern. Primary pleasure from the habit occurs but appears to become subordinate to secondary use of it to ward off pain, especially anxiety or a sense of loss. Various aspects or layers contribute to the urge: a) the symbolic and personal meaning of smoking to the smoker; b) the numerous sensations accompanying smoking—gustatory, pulmonary, tactile, visual and kinesthetic; c) the impulse to take in and eliminate, interwoven with but not identical with alimentary urges; d) the seeking in heavy smokers of a state of chronic low-grade arousal.

6. Our hypothesis is that the motor act of smoking contributes to the relaxing aspects of the habit, whereas, in compromise, sympathetic nervous arousal is mediated pharmacologically by nicotine.

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WHITHER THE DAY HOSPITAL ¹

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The field of psychiatric services is undergoing extensive reshaping at present, with a feeling of some optimism and a sense of forward drive as more workers and material resources become available. This reshaping further derives from a reaffirmation by psychiatrists, through growing confidence in their status, of their traditional role as doctors in actively and optimistically intervening to help all types of illness in a variety of ways and places, and from a reawakening of social conscience regarding the patient in relation to his community. An integral part of this re-formation is what has come to be called "the day hospital movement"; *i.e.*, the setting up of units, in hospitals or detached from them, providing a daily programme for psychiatric patients who remain at home at night and weekends (1-3). "Day hospital" is one of several names given to such arrangements—"day centres," "day wards" are others. Their services vary in their focus (Table 1)—to give active treat-

tivities for lonely and isolated patients (like an aftercare club). Many are an offshoot of a hospital but there are a number of other types of liaison and geographic location.

TABLE 2
Day Hospitals, Day Centres, Day Wards
Commonest Locations (Farndale, U.K., 1961)

1. Day patients attending inpatient ward of mental hospital.
2. Detached day hospital, linked with mental hospital.
3. Day patients attending inpatient ward of general hospital.
4. Day hospitals in grounds of mental hospital.
5. Detached psychiatric units (day patients, inpatients, outpatients) linked to general or mental hospital.

Farndale (Table 2), in his recent book (4) outlining the work of 38 day hospitals and centres in Britain, describes 9 different sorts of settings. Such a diversity of organization is confusing to those of us used to thinking of patients being customarily treated in one of *two* settings, *i.e.*, outpatient clinic or inpatient ward. Yet day hospitals have by now sufficient experience that their functions should be determinate. Bierer (5), who started the Marlborough Day Hospital in London in 1947, suggests that *his* type of comprehensive day hospital could put mental hospitals largely out of business. Contrariwise, there are indications from both Britain and North America that not all day hospitals run at their expected capacity if the location is poor or after the initial evangelism of their founders has passed. In an attempt to define the work and use of day hospitals more clearly, we assessed our experience, totalling 10 years, with 3 day centres in Central Ontario.

These day care centres have certain common features. All are supported by the Ontario Government, give service at no cost to the patient, employ the usual staff disciplines full time (Table 3), and cater to psychiatric illness alone (Table 4). The day care programme is for adults only, but children as well as adults are treated as outpatients in two instances. All the centres are

TABLE 1
Day Centres, Day Hospitals, Day Wards

FUNCTIONS

- A. Acute illness—active treatment.
- B. Convalescence—halfway-house support.
- C. Chronic sickness:
 1. rehabilitation—assessment
—intensive care
—re-training
 2. social support—incurable disability
 3. social therapy—isolates, social defectives.

ment during acute and severe illness (like a hospital), support during convalescence (like a halfway house or convalescent ward), intensive assessment and re-training (like a rehabilitation centre), or group ac-

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² Respectively, Clinical Directors, Day Centre, Toronto Psychiatric Hospital; Day Care Centre, Ontario Hospital, Cobourg; Mental Health Clinic, Ontario Hospital, New Toronto, Canada.

TABLE 3
Day Centre Staffs, 1960-1

	TORONTO	COBOURG	NEW TORONTO
Psychiatrist	2½	2	2
Psychologist	1	1	2
Social worker	1	—	2
Nursing	2	1	2
Occupational therapist	2	2	1

TABLE 4
First Admissions by Diagnosis, 1960-1
Adults

	3 DAY CENTRES	CLINICS*	GENERAL HOSPITALS*	MENTAL HOSPITALS*
Psychoses	25%	12%	40%	60%
Neuroses	46%	22%	48%	11%
Disorders of behaviour	27%	46%	10%	25%
Other	2%	20%	2%	4%

* Ontario

run by full-time psychiatrist directors and are located adjacent to, but independent of, parent psychiatric hospitals which provide some essential services, such as kitchen, laboratory or pharmaceutical supplies; otherwise, these day centres function autonomously in their services to the public.

I opened the first of these centres (6) in early 1958 in downtown Toronto, a metropolis of nearly two million people. It is a branch of the Toronto Psychiatric Hospital, and is installed in a nearby renovated church. This city already possessed, of course, extensive inpatient and outpatient facilities for psychiatric patients, with a waiting list of referrals in most instances. The new day centre was designed to serve during the day persons of both sexes over 18 years of age, affected by psychiatric illness of any sort, but who were not so severely ill or unsupported that night-time special care (in hospital) was necessary. The initial criterion for referral was a psychiatrist's recommendation, but sources of referral were progressively enlarged so that patients were accepted from any source, including self-referrals (Table 5). A screening interview was used when the grounds of referral were doubtful. Still this day centre has not always felt the pressure of a sizeable waiting list. This may be, in part, due to the fact

TABLE 5
Sources of Referral
Day Centre, Toronto

	1958	1959	1961
General practitioners	24%	12%	15%
Self, relative or friend	1%	10%	14%
Hospital inpatients	15%	21%	28%
Clinics	51%	42%	26%
Private psychiatrists	9%	15%	17%

that a day hospital is extensible in form; i.e., it is not bounded by bed space as a hospital, or office space as a clinic. This centre, planned for daily use by 25 adults, has accommodated a maximum of 38 a day and treated 50 per week. Thus while it has been increasingly busy, it has not been loaded with a backlog of referrals as are other units in the city.

Another trend noted was a mounting percentage of chronic sick referred for treatment. These might be patients hospitalized elsewhere repeatedly without stable improvement or attending clinics for many months without the expected progress. For these, the active programme of psychotherapy and physical therapy during short stay as originally designed was not suitable; a longer stay with a more supportive type of care was necessary. Consequently, the stay of patients has increased since 1958, and treatment aspects of aftercare rehabilitation and of social support have needed emphasis. This long-stay trend has been reinforced by a liaison with a Toronto mental hospital, whereby chronic patients of that hospital became patients at the day centre and, once improvement had occurred, were discharged from hospital to live at home while continuing as day patients. The behavioural transition from hospital backward to home took many weeks for these patients.

All patients are followed up as outpatients after terminating day care, and an increasing proportion of psychiatrists' time has been spent in outpatient service. Added to this were patients referred for outpatient consultation as the centre became more widely known. Thus, with the evolutionary experience of 4 years, this day centre, well located in a large city as an offshoot of a psychiatric hospital, has had to meet de-

mands additional to its original design. Catering to 25 adult day patients daily, it has found its services called on in a variety of ways—emergency patients, acute illnesses, halfway house, rehabilitation and support of the chronically sick, outpatient ECT, outpatient consultations. The centre has not found one particular demand to satisfy, but rather a need for expansion of many types of service in this city. An extensive programme of teaching and training also is an essential part of the centre's activities.

The next day care centre has a different history. It opened in mid-1958 in Cobourg, a lakeshore town 70 miles east of Toronto of 10,000 population and circled by a rural area of about 75,000 people. For this town the nearest psychiatric services had been in a general hospital 40 miles to the north, and in a mental hospital, 40 miles to the west. Sited in Cobourg is a mental hospital specializing in the treatment of mentally defective girls. Its superintendent became more and more called on for consultation on psychiatric problems by the local doctors, so that eventually a full-time clinic and day hospital was begun in the superintendent's former home near the hospital and additional staff was enrolled.

The emphasis of this Cobourg day centre, under Dr. Cormack, has been outpatient work and community service. This means contacts with patients seen in the centre itself, with two city general hospitals, with the family doctor; also consultations in the local nursing home and home for the aged and in the jail; also liaison meetings with the Children's Aid Society, schools, public-health nurses and clergy, *etc.* From this material, patients are selected for day care, and about 10 attend daily (contrasted with an average of 15 outpatients seen each day). A night centre was run for a few months initially, but was discontinued as it became a haven for patients with character disorders and no need has been seen to reopen it. About 10% of day patients have had to be hospitalized but there is evidence that a smaller number is sent to hospital than before the centre opened.

The third day centre also began in an area where outpatient services were not immediately available. It is situated in New Toronto, an outskirt of and mainly a dormi-

tory area for Toronto, 8 miles from the city centre. It occupies a remodelled house in the grounds of a large mental hospital, and opened in Jan. 1960.

This New Toronto outpatient clinic and day care centre, led by Dr. Bow, aims, like that at Cobourg, to provide a community mental health service—with most staff time directed toward outpatients, adults and children, both seen at the clinic and reached by liaisons with other agencies in the community. Adjunctive to this work is a day hospital for adults. As at Cobourg, about 10% of all patients seen have received day care by the same staff, and 10% again of the day care patients have needed to be hospitalized (Table 6).

TABLE 6
Caseload, 1960-1

	TO- RONT	CO- BOUR	NEW TORONTO
1. Total patients (day patients plus outpatients)	345	540	420
2. Day patients	242	10	10
Outpatients	100	100	100
3. Children (outpatients only)	0	17	95
Adults	100	100	100
4. Average number of day patients per day	24	10	7
5. Patients receiving ECT	9%	10%	6%
6. Hospitalized	11%	8%	13%
7. Readmission rate	14%	13%	3%

DISCUSSION

These three day centres are similar in design in mainly providing a substitute for inpatient care. We cannot therefore draw on our experience to comment on other types of day hospitals such as those servicing geriatric patients exclusively or day wards in mental hospitals dealing with the rehabilitation of chronic inpatients. However, the day centre in Toronto gradually adopted, on demand and by adaptive intent, a programme for a wide variety of patients ranging from mental hospital inpatients to the acutely ill, from enduring support to brief therapy. Why this demand arose in the one centre and not in the other two is not altogether clear. Factors of case selection and environment are important, but significant too, we think, are the uninte-

grated pattern of services found in most cities and the exclusive full-time attachment of the staff in Toronto to a day centre alone without integral links to an outpatient clinic or an inpatient ward. As mentioned earlier, the Toronto day centre has moved in the direction of the other two centres in providing its own outpatient service.

With an innovation, the initial phase is one of promotion and acceptance, and day hospitals are no exception. But we feel it is now time to question some earlier assumptions. One danger we see is the halo effect of a label—the danger of setting up yet another institution as an end in itself. From our experience it is important to keep in mind that a day hospital should not be purely autonomous but should be linked closely with other services, particularly outpatient clinic and hospital. We see the need for something more than office interviews in many patients. We would also assert that a day hospital, comprehensive as you like, will not replace a hospital. It is probable we could improve on our figures of 10% patients needing hospitalization from a day centre but there will be a limit to this. In particular, some patients previously treated in hospital refuse day hospital care and many families reach their limit of tolerance of the sick relative even for part of the day.

Admittedly many professional workers are unsure of the function of a day hospital and, as the Toronto figures suggest, appear hesitant to accept a day hospital as an alternative to hospital. Psychiatrists, like the public, find hospital an appealing way of isolating the contagion of a disturbed patient. Until a day hospital becomes a first stage in treatment of acute illness, its capacities may not be fully used. Thus the Cobourg day centre, with its intimate and exclusive contact with family doctors and outpatient referral, has been very successful in this regard, while the Toronto centre because of its autonomy has not had the same demand. For this reason, where psychiatric services have achieved greater integration, as in England and Russia, day hospitals have expanded more rapidly. In North America we have tended to value private practice and hospital care most highly, but gradually a flexible welding of

services is occurring and day hospitals will multiply.

In Ontario, a day centre has given a new look to the government psychiatrist. This individual, long regarded as the custodian of irresponsible and inadequate persons, through a day hospital changes his image to that of an outpatient therapist, more closely tied to his community, yet identified with "hospital-like treatment." Greater public acceptance has ensued. Day centres are well accepted by a majority of patients, too, and in many instances are the only sort of treatment accepted.

A remarkable fact is that most day hospitals emphasize group therapies as an integral part of their programme and stress this point more than hospitals or clinics have done. This too occurred independently in the three day centres in Ontario. Influencing this trend, of course, are some current fashions in psychiatric theory and practice, but implicit in the self-selection of the directors for these centres is a search for smaller group identity instead of large hospital wards' diffuseness. The day centres in Cobourg and New Toronto are in former family homes and pride themselves on a homely atmosphere for staff and patients. Group activities, verbal and non-verbal, recreational and educational, are a feature.

Day hospitals owe some of their appeal, to patients and staff, to this focus in therapy—the homely setting, the studied small group interactions, the mutually supportive milieu. The patients are treated as a group where possible and staff roles undergo changes from the traditional ones. This seems particularly applicable in a large city where social relations are often loosely tied, and loneliness for example is a frequent cause of mental breakdown. Promotion of social outlets in and by the community, and a sorting of patients into sheltered workshops, residential hostels and rehabilitation centres may reduce the call on a day hospital's services. A hint of this has occurred in Toronto where the day centre no longer has a social club meeting on the premises but passes patients on to a club run by volunteers of the local Mental Health Association.

In summary, from our experience with three day centres in Ontario we advocate

that day hospitals serve as one element in an integrated mental health service rather than as separate units, and that as an acute treatment service it should be most closely linked with an outpatient clinic. Day hospitals warrant further expansion as a feature attractive and effective in the opinions of patients and staff.

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ABSTRACTS

PSYCHIATRY IN AN ARMY GENERAL HOSPITAL

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In the Army psychiatry is an integral part of the professional services of each general hospital. As the dominant service of the department of neurology and psychiatry, it is for all practical purposes on a level with the departments of medicine and surgery. Architecturally it is often quartered as far from headquarters as possible, but this is a relic of past construction and does not truly indicate its status or relationship with the other medical specialties or even with headquarters itself.

This is particularly evident at a specialized treatment center like Valley Forge General Hospital which is devoted chiefly to the care of patients with pulmonary diseases and psychiatric disorders. Here it is one of the major departments of the hospital, accounting for nearly one-third of the hospital census. Although it does not have a formal training program, the hospital's Department of Psychiatry and Neurology is, in fact, the second largest in the U. S. Army. It is the last link in the overseas chain of evacuation of psychiatric patients whose homes are located in the northeastern part of the United States. Locally it receives a few patients from the hospitals and dispensaries in the same area.

Organizationally the Department is divided into the conventional divisions—psychiatry, neurology, psychiatric social work, psychology, and the consultation services. Its personnel are either assigned to the Department directly by the Surgeon General's office or indirectly through the hospital, as in the case of the nurses, corpsmen, and occupational therapists who really belong to other services but are placed in the Department of Psychiatry and Neurology for duty.

The professional personnel are stationed at the hospital for tours of varying length, usually two to four years. These assign-

ments usually take place during the summer. While the social work officers and psychologists are well trained and usually members of the regular army, this is not true of the medical officers on whom the real burden of examining and making disposition of the patients devolves. With the exception of the Chief of the Department who is board qualified in psychiatry, and the Assistant Chief who is board-eligible, most of the other officers have had little formal psychiatric training before coming into the army. Because of the shortage of psychiatrists, some neurologists have been assigned to psychiatric duty in the last year.

The task of training these new medical officers is one of the major responsibilities of the Department. Even though a man has had considerable civilian training, he usually finds his attitudes toward treatment and his orientation toward patients have to be revised sharply in the military setting. He also has a host of administrative and technical details to learn. This is accomplished chiefly through personal supervision and conferences and by the liberal use of civilian consultants² from the nearby Philadelphia area. The consultants are scheduled on a regular monthly basis. Their time is spent usually in case presentations, or in discussion of material of special interest to the staff. While the consultants render valuable assistance in difficult cases and stimulate the discussion of dynamics and other aspects of psychiatry and neurology, one of their most valuable contributions has been their broadening effect on the staff's viewpoint.

Certain other facilities are available for training purposes, such as the Audio-visual Aid Section of the hospital, which can obtain a number of excellent psychiatric

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¹ Valley Forge General Hospital, Phoenixville, Pa.

films, and the medical library, which, through its connection with the National Library of Medicine, can obtain photostats of almost any article the staff may desire. Although travel money is limited, staff members may be given administrative leave up to ten days to attend any meeting within their specialty. While the Department does not have a formal research program, the scientific attitude is definitely encouraged, and within the past few years several men have published papers. Funds for research can be obtained from the Research and Development Branch of the Surgeon General's Office in Washington, D. C. if the applicant develops an acceptable research protocol. Since the psychiatric service is part of a general hospital, the medical officers have the advantage of expert consultation in all the other specialties and conferences or seminars in the other branches of medicine.

The psychiatric patients are chiefly young men in their twenties and thirties. Except for the mental disorders of the senium and mental deficiency, which is rarely seen now because of the screening examination at induction, their diagnoses cover the entire gamut of the psychiatric nomenclature. Army regulations discourage the hospitalization of neurotics and individuals with character and behavior disorders, but a large number still do find their way into the hospital, though this figure is much less since the re-establishment of the mental hygiene consultation services following the Korean War. Those who do secure admission are either misdiagnosed or have been acting in such a way that they are threatening to the referring group. Some, of course, are sent for forensic purposes.

The treatment programs at Valley Forge General Hospital (and other army general hospitals as well) are very similar to those in civil life. Tranquilizers are used extensively in treating psychotics and have displaced ECT to some degree. Insulin therapy has been discontinued along with hydrotherapy. Considerable emphasis and time are now spent in developing the concepts of social psychiatry and the therapeutic milieu of the wards. Group therapy is used extensively on all the wards, and seems to help in solving problems in communication

and communication breakdown, decreasing ward unrest and incidents.

Although the Department still has closed and open wards, the previously great concern about security, which was evident in military hospitals generally, has given way to a more relaxed atmosphere. Heavy metal screens, for example, have been removed from the mess hall, and patients are no longer checked for silverware after eating. Most of the closed wards are open part of the day, and the better patients are given ground passes for the day.

Much of this permissive atmosphere is the direct result of the good relationship that the Department of Psychiatry and Neurology has with the rest of the hospital, which has enhanced the hospital community's tolerance for the occasional instance of aberrant behavior of the patients. This relationship does not occur as a matter of course, but has to be actively cultivated. Members of the psychiatric staff have had to sell themselves and psychiatry. They must participate in hospital conferences and attend the various social functions of the hospital and its staff.

Probably the most interesting program that the Department has developed in the past few years has been the work therapy program under the supervision of the occupational therapy section of the Physical Medicine Service. It has been most effective in favorably influencing the hospital community. Depending on the patients' training, mental state, or interests, they have been assigned to all activities in the hospital from the nursing service to engineering. Actually the men themselves have been instrumental in breaking down the stigma that usually is attached to psychiatric patients. After leaving the hospital some have written letters to members of the maintenance staff thanking them for their kindness while they were with them. The program has relieved the boredom of ward routine for the patients and has provided another means for the medical officers to gauge their improvement.

The Department has an active recreation program for all the patients. The Red Cross supervises most of the programs for the closed ward patients. The open ward patients, of course, have the entire facilities

includes the Red Cross building and its of the hospital available to them which entertainment, the theatre, swimming pool, golf course, bowling alley, Post Exchange, and Snack Bar. In addition the Department has a liberal pass and leave system for them.

The average length of hospitalization for all patients is 60 to 70 days. Some psychotic patients may remain longer, but army policy is not to hospitalize members longer than 6 months though this is not a hard and fast rule. The great majority of patients have less than 5 years' service and most of these are recommended for medical discharge, although this is not mandatory. Those who have more service are often returned for a trial of duty if they make a good recovery and are well motivated for duty. Generally, they must have had a good army record and be free of such characterological problems as alcoholism or sexual deviation. Badgley, *et al.*,³ did a recent study on

selected schizophrenics returned to duty and found only about 50% remained on duty for at least two years. He concluded that there were no really good criteria for retention. One of the current problems of army psychiatry is to provide a good follow-up program for schizophrenic patients returned to duty.

Soldiers displaying character and behavior disorders usually are recommended for administrative disposition. The actual discharge is ordered by a non-medical board of officers who may or may not accept the medical officers' recommendations. At the present time most soldiers in this category in the army are eliminated locally at their own posts without ever being hospitalized. Those in the hospital are usually returned to their home post, but some are discharged at the hospital, when they have been assigned to the hospital as members of the holding detachment. Thus the vast majority of patients admitted to psychiatry are recommended for separation from the service.

³ Badgley, T. M., *et al.* : Am. J. Psychiat., 118 : 10, 1962.

POST-ABORTION PSYCHIATRIC ILLNESS—A MYTH ?

JEROME M. KUMMER, M.D.¹

American medical literature contains frequent mention of psychiatric illness following abortion (1-7). Up to this time, however, there has been no statistical documentation of such sequelae. A preliminary survey among a group of American psychiatrists revealed that psychiatric illness following abortion occurs either very rarely, or, for the most part, not at all. (The term "abortion" will hereafter refer to induced abortion both criminal and therapeutic.) Attempts to amplify this study were made through surveying the literature in this country and abroad and communicating with psychiatrists in other countries, particularly those

in which prevail more liberal attitudes toward abortion. Further attempts through a review of statistics in the larger American governmental bureaus were fruitless because relevant data had not been gathered.

In 1949, I saw a woman, age 29, pregnant for the fourth time. She had suffered severe schizophrenic reactions following the birth of each child and was hospitalized for about one year each time. It was my opinion that she should have a therapeutic abortion to avoid the risk of another relapse. Considerable difficulty was encountered. The law permitted abortion only to preserve a woman's life. Yet, as I subsequently learned, reputable physicians performed therapeutic abortions in many of our leading hospitals to preserve health.

The case in question aroused my interest in this problem and led to my writing a

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series of articles concerning psychiatric indications for therapeutic abortion(8) as well as the need for modernizing and clarifying laws pertaining to therapeutic abortion (9, 10). In the past decade a number of excellent books have appeared, dealing with the abortion problem in a frank and thorough manner(11-13). At the present time there is a substantial movement in the United States for modification of the laws as recommended by experts representing various disciplines.

Inquiries, as part of a preliminary study, among 32 psychiatrists, all but 4 of them associated with the University of California at Los Angeles School of Medicine, revealed that 75% had never encountered any moderate to severe psychiatric sequelae of abortion. The remaining 25% encountered such sequelae only rarely, the highest figure reported was 6 cases in 15 years of practice. The average length of practice in the group surveyed was slightly over 12 years.

The finding must be contrasted with the substantial incidence of psychiatric illness complicating pregnancy and childbirth(8). Of more than 100,000 female admissions to mental hospitals in the United States between 1916 and 1946, approximately 2% were precipitated during pregnancy or the postpartum period. Similarly, a survey of several studies in Europe and the United States revealed one postpartum psychosis in every 500 births.

A review of European literature tends to discount the claim that abortion leads to frequent psychiatric illness. One notable exception is the study made by Karin Malmfors(14), a social worker in Stockholm, who in 1951 reported 10 cases of impaired mental health in a series of 84 women following legal abortion. While it is true that at least 8 of the 10 were aborted for psychiatric indications, the Malmfors study stands in vivid contrast to one made by Dr. Martin Ekblad in the same city at about the same time.

Ekblad has provided a most comprehensive follow-up study of psychological after-effects in a series of 479 women who were aborted on psychiatric grounds. Only 1% developed any psychiatric impairment in their ability to work. To quote Ekblad(15) :

In the light of their symptoms and their situation at the time of abortion, it is probable that they would have developed equally severe symptoms of insufficiency even if they had not been granted legal abortion. All of these 5 women had had severe manifest neurotic symptoms even before the abortion. It is seldom that these undesirable psychic sequelae [of abortion] are so serious that they may be described as morbid or that they adversely affect the woman's working capacity.

Communication with psychiatrists in various European countries, Israel, and Japan revealed a similar trend of rarely, if ever, encountering moderate to severe psychiatric sequelae of induced abortion. During a recent visit with Dr. Henrik Hoffmeyer, Chief Psychiatrist, Mothers' Aid Society in Copenhagen, I learned that they heard of no psychiatric after-effects of the degree in question among approximately 30,000 legal abortions performed over the past 15 years.

We have a critical situation in the United States wherein it is estimated that over one million illegal abortions (or one out of every 5 pregnancies) occur each year. Most of these are performed by extremely unskilled, unscrupulous individuals, and, it is further estimated, more than 5,000 women die each year as a result of complications (16).

In attempting to deal with this problem we must realistically appraise it as one of utmost complexity, a syndrome of severe underlying social illness, requiring studies and remedies on many levels and from numerous disciplines.

The Kinsey group revealed many interesting findings in their third book(12) (published after Kinsey's death; Dr. Paul Gebhard was senior author), pointing to valuable clues concerning the etiology of abortion. It was found that among unwed women where taboos against illegitimacy were stronger, a much higher rate of abortion occurred. Might one conjecture that abortion is a product of sexual taboos? Another finding of the Kinsey group, confirming observations made earlier by others (17-19), was that abortion is more of a problem of married women who have several children, contrary to the popular notion that it mostly involves illegitimate preg-

nancies. The more pregnancies a woman has had, the more likely she is to seek abortion. It was of great interest to Scandinavian physicians that American diagnostic categories do not include anything even remotely resembling the "worn out mother syndrome," used in the Scandinavian countries as a socio-medical indication for therapeutic abortion. "Can this mean," they might ask, "that you do not have worn out mothers in the United States?"

Also noted by the Kinsey group, and again confirming observations by others, was that induced abortion did not result in the ill effects that had been so generally assumed previously. Statistically their material gave no evidence of any resultant sterility or damage to capacity for achieving orgasm. They found that other physical and psychological after-effects appeared less frequently than had been previously supposed.

If the ill effects of induced abortion have been so grossly exaggerated, we must ask ourselves why. Might the answer be that this is part of the means of enforcing the taboo? The taboo concerning abortion goes far back into antiquity. It has deep roots in the Judaeo-Christian ethic. It is part of the Oath of Hippocrates.

There is no question that abortion represents psychological traumata to the abortee on many levels. Also there would be no denying of the incomparable satisfaction accruing to women from pregnancy, childbirth and motherhood, visualized almost universally as the extreme of fulfillment for the woman who is well enough physically and emotionally.

As with pregnancy and parturition, induced abortion would not be considered the basic cause of any psychiatric sequelae, but rather as a precipitating stress. The type of illness that would occur depends on the premorbid personality and susceptibility of the patient.

Pregnancy and childbirth are the most rapid and dramatic changes, anatomically and physiologically, to occur in the course of normal life processes. The emotional reverberations are of comparable magnitude and, when combined with varying psychological predispositions, lead to the emotional reactions observable in all women. These

reactions are considerably more disabling in persons with a history of earlier emotional and personality disorders, particularly one of overt mental illness.

In considering a patient for therapeutic abortion we must balance the threats of psychological trauma from abortion against that from pregnancy, childbirth, and child-rearing. Apparently pregnancy and parturition exert greater stresses than does induced abortion upon women susceptible to mental illness. The incidence of post-abortion psychiatric illness falls far short of what we have been led to expect, particularly when we consider the number of abortions that take place.

My conclusion from my preliminary investigations would be that abortion, as a precipitating stress towards moderate to severe psychiatric illness, is of only very minor significance, probably similar to any of a number of non-specific factors, such as a disappointment in love, an accident, loss of job, *etc.* This stands in vivid contrast to pregnancy, childbirth and child-rearing, which have been found to be substantially significant stresses in susceptible females.

If abortion, as is often claimed, leads to frequent psychiatric complications, then indeed this should be brought out into the open. If, on the other hand, as my preliminary findings suggest, abortion provides substantial relief and protection for women susceptible to disabling psychiatric illness, then let us expose the myth of post-abortion psychiatric illness and proceed from there!

SUMMARY

No known attempts to document statistically the incidence of post-abortion psychiatric illness have been found in American medical literature, yet many writers describe and discuss this as fairly common after-effects of both therapeutic and criminal abortion.

Preliminary findings of a multi-lateral investigation reveal that psychiatric sequelae of moderate to severe intensity following abortion are very rare, markedly less than the incidence of psychiatric illness related to pregnancy and childbirth.

This study involved surveying a small sample of American psychiatrists, attempt-

ing to gather data from statistical departments of governmental agencies, and surveying psychiatrists from other countries, particularly those where abortion is either liberally available or completely legal.

Comparisons are made to the situation concerning physical after-effects of abortion, which recent studies have shown to have been much exaggerated. Enforcement of the taboo against abortion is considered the basis for the widespread myths in this area and resistance to factual documentation.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THE EFFECT OF CLOPENTHIXOL ON CHRONIC PSYCHIATRIC PATIENTS¹

T. A. BAN, M.D., K. FERGUSON, M.D., AND H. E. LEHMANN, M.D.²

After the introduction of the phenothiazines and rauwolfia alkaloids in the treatment of psychiatric patients, further research has been directed towards finding other chemicals with antipsychotic properties.

Clopenthiol (Sordinol),³ a chemical synthesis of chlorprothixine and perphenazine, was developed with the aim of producing a compound with stronger antipsychotic properties than chlorprothixine while being at the same time faster acting and less toxic than perphenazine(1).

An uncontrolled clinical trial was carried out over 10 weeks with 20 chronic hospitalized patients. During the trial period 30 to 300 mgs. of clopenthiol were administered daily in three equally divided doses. Special emphasis was laid on the investigation of the effect of the drug on certain psychiatric target symptoms and on possible toxicity.

The patients for this study were selected on the basis of chronicity of illness and failure to respond to previous therapies. Their ages ranged from 20 to 65 (mean 41 years); length of hospitalization ranged from 6 months to 25 years (mean 6 years). The diagnostic distribution consisted of schizophrenias, 13; manic-depressive psychosis (hypomanic), 2; paranoid state, 1; mental deficiency with psychosis, 2; pathological personality, 1; chronic alcoholism (Korsakoff syndrome), 1.

The evaluation was based on clinical observations and on the results of a battery of tests.

RESULTS

Psychiatric: Based on the daily notes of changes observed in the patients' mental state and on the symptom check list, the drug's principal effects were seen in the following areas: in 9 patients improvement was manifested in mental integration as reduction of disorders of thought and perception together with positive behavioral changes; there was also better social contact; the activity (arousal factor) of three patients decreased and four became depressed (affectivity factor). *Psychological*: Based on the Word Association and Conformity Index tests(2) a general improvement was noted in word association time of patients, expressed in mean values from the pre-trial 2.2 seconds to 1.1 seconds in the tenth week. In association time there was a directly proportionate relationship between clinical improvement and decrease of association time in most individual cases. The conformity index did not show any conclusive changes. *Physical*: There was a tendency towards a moderate lowering of blood pressure and also a moderate rise in pulse rate which gradually tended to return to normal. Fourteen patients gained weight during the trial period. *Adverse Reactions*: The following side effects occurred: paroxysmal tachycardia, 1; dry mouth, skin and scalp, 3; facial flushing, 4; extrapyramidal symptoms, 10; depressive mood change, 4; transient drowsiness, 14. Medication had to be discontinued in only one case because of side effects (paroxysmal tachycardia). The majority of the extrapyramidal symptoms occurred in the third week and were controlled with antiparkinsonian medication.

¹ This investigation was supported by a Public Health Service research grant MYP 5202 from the U. S. Department of Health, Education and Welfare.

² Verdun Protestant Hospital, 6875 LaSalle Blvd., Verdun, Quebec.

We are indebted to Mrs. K. Vagi, R.N., for her valuable assistance in these observations.

³ Clopenthiol (Sordinol) was generously supplied by Ayerst, McKenna & Harrison Ltd.

Drowsiness was prominent at the beginning of the trial but diminished during the course of treatment, while the dryness of skin and scalp increased as time passed. *Laboratory Findings*: Liver, kidney function and haemopoietic system tests did not reveal any toxic effect of the drug.

Of the 20 cases, 9 showed clinical improvement (3 marked and 6 moderate), 1 became less controlled, 4 became more depressed and 6 patients remained unchanged.

SUMMARY

In our clinical trial with 20 male chronic patients on a mental hospital ward, clopen-

thixol appeared to have observable antipsychotic properties with relatively little toxicity. The observation that this drug was therapeutically effective in certain chronic schizophrenic patients where previous treatments had failed is in accordance with the findings of other clinical investigators and suggests that clopenthixol may deserve a place among the clinically used antipsychotic compounds.

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THE IDENTIFICATION AND TREATMENT OF AN EARLY DEPRIVATION SYNDROME IN ALCOHOLICS BY MEANS OF LSD-25

ERNEST BELDEN, M.A., AND RICHARD HITCHEN, M.D.¹

The original purpose of the exploratory study was to determine the effectiveness of LSD-25² as adjunct to psychotherapy in treating alcoholic patients in a large mental hospital. The general findings were in essential agreement with those of other investigators who have used the drug (1-4) and have been published elsewhere (5).

One of the most intriguing findings of our research was that certain alcoholics have experienced extreme emotional and affectional deprivation at a very early age. In some cases we were able to substantiate such speculations by historical data supplied by members of the patient's family. Individuals who have experienced such psychic trauma, usually the loss of the mother, will attempt to protect themselves against recurrence by means of massive denials for any need for affection and by an almost complete avoidance of affective investment in others (love). This type of armor has many of the qualities found in psychopathic and character-neurotic adjustment. We felt that such individuals

make the most promising subjects for LSD-25 treatment. We were able to work through these long-established defenses by means of an intensely magnified transference, *i.e.*, the intimate exchange of feeling between therapist and patient enhanced by music. This interchange between therapist and patient comes close to the existentialist concept of "encounter" (6) and the results are quite dramatic and far-reaching. The breaching of the patient's defenses often makes it impossible for him to retreat to his previous pathological adjustment of encapsulation, distancing and avoidance.

Once these gains have been achieved by means of LSD therapy they have to be consolidated and exploited by the therapist in regular (non-LSD) sessions.

We might now theorize as to what need alcohol serves in individuals with a desperate, yet covert or denied need for affection, love, and closeness. Is the desire for oblivion, so often expressed by alcoholic patients, a wish to blot out affectionate needs or to re-instate them at the most primitive infantile level? We also wonder what sort of a re-arrangement of personality structure takes place during the "LSD encounter" and why these changes appear to

¹ Napa State Hospital, Imola, Calif.

² LSD-25 (d-lysergic acid diethylamide) was kindly furnished by Mr. H. Althouse, Sandoz Pharmaceuticals.

be of a permanent nature. Why is the patient after LSD therapy able to meet his affectionate needs on a reality level and abandon alcohol which has served as a substitute for so long? Obviously, these questions are in need of further clinical investigation.

We do not want to imply that all or even most alcoholics exhibit the syndrome of affectional deprivation or that they can be cured by means of LSD therapy. Instead, we propose merely a more systematic research approach to this problem which would include careful selection and treatment of subjects which fit the criteria of the identified syndrome. This type of research combined with a follow-up study would throw light on the validity of our speculations.

SUMMARY

A limited research project was undertaken in which LSD was combined with psychotherapy. The results are in essential agreement with those of other investigators, who have used LSD as adjunct to therapy with alcoholic patients. Evidence of the

existence of an emotional deprivation syndrome which responds to the technique developed by the present investigators was found and discussed. This syndrome is consistent with some of the psychoanalytic formulations regarding the origin of psychopathic and character disorders. Treatment may be viewed as similar in nature to an intensive existentialist "encounter." The authors propose a larger, systematic investigation with follow-up studies which might confirm their present tentative findings.

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A PRELIMINARY STUDY OF PHENOXYPROPAZINE IN THE TREATMENT OF DEPRESSION

M. R. LEAHY, D.P.M., J. T. ROSE, D.P.M., AND R. PLOWMAN, M.B.¹

Thirty-five depressed female inpatients of a psychiatric unit in a general hospital were selected as suitable for antidepressant drug therapy. All cases were of moderate severity; the average age was 47 years. Seventeen cases had endogenous depression, 18 were reactive depressives. Patients received 5 mgms. of phenoxypropazine (Drazine) b.i.d. for one week, then 10 mgms. b.i.d. for 3 weeks after which observations were discontinued. All patients had, in addition, phenothiazine treatment, the average dose being 50 mgms. of thioridazine (Mellaril) t.i.d., as well as a small nightly dose of barbiturate. Ankle oedema was the only side effect, occurring in 3 elderly patients (average age 68 years) and easily controlled by temporary reduction of dosage

together with an oral diuretic. Patients were assessed at the end of the fourth week, the results being shown in the following table.

	ENDOGENOUS	REACTIVE
Recovered	11	10
Moderate improvement	4	7
No change	2	1

Only 3 cases failed to respond to treatment, whilst 21 patients made a complete recovery. Endogenous and reactive depressions showed no significant difference in response to phenoxypropazine. Cases who responded well showed improvement which began during the first 7-10 days and progressed as treatment continued. No cases of delayed response occurred. A further 11

¹ St. James's Hospital, Leeds, England.

patients, more severely depressed, received phenoxypropazine and EST; no complications were observed and the number of treatments required did not appear to be reduced.

Phenoxypropazine appears to be an effective

antidepressant in cases of moderately severe depression of either endogenous or reactive nature. The results of this pilot investigation are sufficiently encouraging to warrant full-scale controlled clinical trials.

FLUPHENAZINE IN THE TREATMENT OF HOSPITALIZED MENTAL PATIENTS

LEROY E. MOORE, M.D.¹

Between Jan. 1, 1961 and Aug. 25, 1961, all patients from a selected ward of this hospital were treated with fluphenazine² except those with convulsive disorders and those who had refused all previous medications. Originally, the study group included 97 males, manifesting various psychiatric illnesses, predominantly psychotic and chronic. Subsequently 77 additional male patients, who were admitted or transferred to the treatment ward during the study period, were added to the series. Most of these 77 patients were acutely ill, the majority had schizophrenia. The ages of the 174 patients comprising the series ranged from 20 to 80 years.

Fluphenazine was administered orally to each patient, usually in daily doses of 2.5 mg. or 5 mg. Initially, a dose of 2.5 mg. was prescribed for the first two weeks, then uniformly increased to 5 mg., with adjustments in dosage thereafter (1 mg. to 10 mg.), as indicated. Subsequently, patients were usually started on daily doses of 2.5 mg. or 5 mg., though a few patients were given 1 mg. a day and one patient received daily doses of 20 mg. to 40 mg. Patients who exhibited low urinary phenothiazine values³ were subsequently given the medication either by parenteral administration or as an elixir instead of as a tablet. Treatment was continued in individual patients for varying periods up to 8 months.

Initially, the psychiatric status of each patient was evaluated immediately before

treatment with fluphenazine and again at weekly intervals for the first 6 weeks of therapy. Effects of treatment were appraised in each case on the basis of these evaluations together with weekly reports on the patient's behavior by the nurses and attendants on the ward. As the study progressed, patients were evaluated less frequently, usually once each month, but in every case immediately before treatment and again at the completion of the study. In order to facilitate assessment of the findings the results observed in the original 97 patients and those in the added 77 patients were tabulated separately.

Results. Improvement was observed after 1 week of therapy in 30 of the 97 patients originally placed on fluphenazine. As treatment was continued an increasing proportion improved. Of the 79 patients continued on medication for 6 weeks, 44 were improved, 6 were discharged from hospital either markedly improved or in remission, 2 were placed on indefinite leave, and 5 were transferred to other hospitals for continuing treatment. Further, of the 64 patients who received treatment for longer than 6 weeks, some for as long as 8 months, 43 were improved, 4 were placed on indefinite leave, 9 were transferred and 1 was discharged. Similar results were observed in the 77 patients added to the series. After treatment with fluphenazine for periods up to 7 months, 47 of the 77 patients were improved, 5 were placed on leave, 4 were transferred, and 1 was discharged. Improvement in these patients was manifested by favorable changes in affect and attitudes, improved behavior and interpersonal relationships, as well as a decrease or remission

¹ Camarillo State Hospital, Camarillo, Calif.

² Prolixin—supplied by E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp.

³ Values below 1+ according to the method of Forrest, *et al.*: *Am. J. Psychiat.*, 114: 931, 1958.

of psychotic symptoms. Treatment was discontinued in patients from both groups who failed to improve as well as in 13 of the 17 patients of the entire series who experienced one or more reactions, as follows: parkinson-like symptoms (13), nervousness (7), insomnia (2), gastrointestinal symptoms (3), vomiting (2) and drowsiness (3).

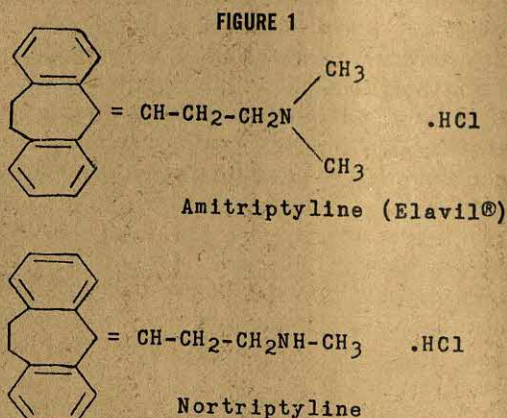
Fluphenazine is effective in the treatment of functional psychiatric disorders. It is effective in low dosage and therefore economical to use; its effect is long-lasting, so that dosage once or twice daily usually suffices; its adaptability for maintenance therapy of patients on an outpatient basis is a definite advantage.

EVALUATION OF NORTRIPTYLINE IN THE TREATMENT OF AFFECTIVE DISORDERS (AND COMPARISON WITH OTHER DRUGS)

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.¹

This is a report of our experiences during the last 6 months with nortriptyline (Aventyl)² in the treatment of affective disorders. This compound is 5-(gamma-methylaminopropylidene)dibenzo(a,d)cyclohepta (1,4) diene hydrochloride. Its chemical structure, and its relation to amitriptyline, is as shown in Figure 1.

The drug was administered to 50 female patients suffering from acute or recurrent depressive illnesses. The age incidence was characteristic of patients with depressive states, as follows: 21 to 30—3; 31 to 40—10; 41 to 50—9; 51 to 60—14; 61 to 70—12; and 71 or over—2. Thus, 28 (56%) were over 50 years of age. Diagnostic classification is



indicated in Table 1. Dosage was initiated at a level of 25 mg. t.i.d. or q.i.d., and increased, usually after 7 to 10 days, to 50 mg. t.i.d. Maximum dosage prescribed was 200 mg. daily.

As in previous studies, results were desig-

Table 1
Results of Treatment with Nortriptyline in Affective Disorders
(and comparison with other related drugs)

	NORTRIPTYLINE				IMIPRAMINE				AMITRIPTYLINE				DESMETHYL- IMIPRAMINE			
	TOTAL NO.	A	B	%A	TOTAL NO.	A	B	%A	TOTAL NO.	A	B	%A	TOTAL NO.	A	B	%A
Psychoneurotic depressive reaction (mixed—3)	21	18	3	86%	22	15	7	68%	17	13	4	76%	9	8	1	89%
Manic-depressive reaction	16	14	2	87%	34	23	11	68%	16	11	5	69%	26	18	8	69%
Involuntional reaction	9	4	5	44%	9	5	4	56%	9	6	3	67%	8	4	4	50%
Psychotic depressive reaction	2	2	0	100%	14	13	1	93%	5	4	1	80%	6	5	1	83%
Others	2	2	0	100%	1	1	0	100%	3	2	1	67%	1	0	1	0%
Senile with depression (1)																
Alcoholic with depression (1)																
Totals	50	40	10	80%	80	57	23	71%	50	36	14	72%	50	35	15	70%

¹ Fairfield State Hospital, Newtown, Conn.

² Generous supplies of nortriptyline were furnished by Eli Lilly & Co.

nated as satisfactory (A level) in patients who achieved a full remission or much improved state, or as unsatisfactory (B level) in those who failed to improve or exhibited partial improvement only. As indicated in Table 1, 80% of the entire group exhibited an A level of improvement. Thus the final overall results were somewhat superior to those obtained with previous antidepressant drugs, although the difference does not appear to be statistically significant. It may be noted particularly that the results in the manic-depressive group were better than those observed with previous drugs. Speed of action was eminently satisfactory. Initial improvement usually began within 7 to 10 days, and progressed uniformly thereafter. Thus, with respect to temporal factors, the drug compared favorably with imipramine and amitriptyline.

Significant complications were absent. However, side effects, although relatively minor, were frequent. Thirty-eight patients

indicated the presence of one or more side effects, either spontaneously or in response to direct inquiry in this area. Of these, dryness of the mouth was by far the most common, as 26 patients (52%) noted this symptom. In addition, the following were recorded: peculiar ("cotton") taste, 2; dizziness, 6; somnolence, 4; weakness, 3; constipation, 3; sweating, 1; feeling of warmth, 1; mild manic phase, 1. All of these were relatively mild, and tended to disappear after the first week or so. Dryness of the mouth, however, tended to persist. These side effects did not necessitate discontinuation of therapy in any patient. Laboratory data, including alkaline phosphatase and transaminase levels, were normal.

In summary, therefore, it may be concluded that nortriptyline is an effective antidepressant agent. Side effects, particularly dryness of the mouth, are frequent, but not distressing.

DIAZEPAM, A NEW TRANQUILIZER

ARMAND DiFRANCESCO, M.D.¹

During the past 10 years, research in psychopharmacology has increased tremendously and there are now over 65 different drugs available for the treatment of mental illness. While these drugs have had a beneficial and remarkable effect on the emotional states and behaviour of the mentally ill, the variability and degree of effectiveness and side effects have continued the search for better compounds. One of the newest is a benzodiazepine derivative, diazepam (Valium),² with the chemical formula 7-chloro-1-methyl-5-phenyl-3H-1,4-benzodiazepine-2(IH)-one.

We have tested the effectiveness of this drug in the treatment of various mental disorders as seen in a psychiatric outpatient clinic. Diazepam has been described as having approximately 5 times the potency of chlordiazepoxide as a tranquilizer and muscle relaxant. Twenty-six patients of both sexes, between the ages of 7 and 78, were

chosen for the study. The onset and duration of mental illness varied from a few months to 30 years. All patients had received some previous psychiatric treatment including ECT, tranquilizers, antidepressants and psychotherapy with no satisfactory results. Their adjustment ranged from moderate incapacitation to marginal ones. These cases were chosen because they all showed moderate to severe overt anxiety and tension. In addition, 9 patients suffered from reactive depression. Their diagnoses were as follows: 7 chronic anxiety neuroses, 3 obsessive-compulsive neuroses, 1 anxiety hysteria neurosis, 1 schizoid personality, 12 schizophrenia (including 1 chronic catatonic, post-lobotomy), 1 passive-aggressive personality disorder, and 1 adjustment reaction of childhood, neurotic disturbance.

A double blind study was conducted using diazepam and identical placebo. Each patient was started either with diazepam or placebo. In 2 weeks time, their medica-

¹ Monsignor Carr Institute, Buffalo, N. Y.

² Supplied by Roche Laboratories, Nutley, N. J.

tions were switched; this was repeated a second time at the end of 4 weeks. At the end of the sixth week, all were placed on diazepam and continued for a period of 1 to 3 months. No suggestions were made regarding the medication other than that they were required to take it as "part of the treatment program." Patients were interviewed weekly for one hour and given supportive psychotherapy of a minimal nature. Signs, symptoms and current adjustment were noted and recorded. Dosage was started at 2½ to 5 mgm. t.i.d. and increased as necessary. The maximum dosage given was 40 mgm. daily.

From the data obtained, a definite reduction in anxiety and tension was noted when diazepam was taken. No improvement was noted with the placebo and symptoms

usually returned when patients were switched from diazepam to placebo. At the end of the 4-month study, 5 patients showed marked improvement; 17 were moderately improved and 2 had mild reduction of symptomatology. No changes were noted in 2 patients. Side effects occurred in approximately 25% of the cases, consisting chiefly of mild drowsiness, hypotension and nausea. These, however, caused a minimum of discomfort and were easily controlled. Clinically, no serious toxic effects were observed.

Best results were obtained in the neurotic disorders with overt anxiety and tension. Diazepam appears to be an effective tranquilizer with minimum side effects. It deserves further study alone and in combination with other tranquilizers.

TREATMENT OF ENURESIS WITH IMPRAMINE

MARIA A. SALGADO, M.D.,¹ AND OSWALDO KERDEL-VEGAS, M.D.,²

During the last two years there have been clinical notes reporting encouraging results in the treatment of enuretic children (1, 3, 4) and in hospitalized psychotic females ranging from 8 to 16 years of age (2). Recently Dorison, *et al.* (5), reported no significant difference in the rate at which both imipramine and placebo decrease enuresis in adults.

We selected 20 enuretic patients ranging from 4 to 15 years of age from a larger group referred to us for a variety of psychological problems. We administered imipramine following the recommendation of Munster, *et al.* "Patients under 12 years or over 12 but retarded physically, were given 25 mg.; those over 12 years or under 12 but physically precocious were given 50 mg. imipramine" (2). The response to the imipramine was satisfactory from the very first dose. It is interesting to note that although 5 of the 20 patients were mentally retarded, all showed remission of the symp-

tom as long as treatment was continued. The only exception was a female patient with a Laurence-Moon-Biedl syndrome who had diurnal and nocturnal enuresis. We increased the dosage to 25 mg. during the early morning and 50 mg. at bed time. Her diurnal enuresis ceased completely while the rate of nocturnal enuresis decreased sharply.

This treatment is highly recommended because of its lack of side effects, simplicity and the immediate cessation of the condition. We feel that further trial of this treatment on mentally retarded children and adolescents is necessary.

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A NEW TOPICAL SPRAY AGENT TO PROTECT PATIENTS ON CHLORPROMAZINE FROM SUNLIGHT

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AND WALTER J. RUNGE, M.D.¹

Since the introduction of chlorpromazine, it has been well documented that a number of patients on this drug develop a severe sunburn reaction to minimal exposures of sunlight (1, 2). Methods to protect patients have included the use of topical suncreening agents and protective clothing but thus far there has not been a practical, efficient, and consistent means. At the Hastings State Hospital each spring, straw hats are placed by the exit of each cottage and patients are encouraged to use them each time they go outdoors. Patients often forget to wear their hats and the hospital personnel have to warn them to keep on their protective cover.

Recently the Department of Medicine and Division of Dermatology at the University of Minnesota reported a new concept of light protection (3-6). This consists of changing the optical characteristics of the stratum corneum so that 95% of ultraviolet radiation reaching the skin is effectively blocked. Since this filter is part of the stratum corneum it cannot be washed off and wears off as the skin normally exfoliates. The filter is kept at maximal efficiency by reapplication of the mixture every few days to once a week. The topical mixture consists of 0.035% lawsone and 3% dihydroxyacetone in a 50% isopropanol-water solution. The use of chromatographically purified chemicals is mandatory as impurities cause contact dermatitis and instability of the topical mixture.

At the Hastings State Hospital in the spring of 1962, the following procedure and study was initiated:

The physicians and aides on each ward noted those patients who, in previous years, had definitely shown a marked sunburn reaction while on chlorpromazine. These patients were candidates for this study. They were sprayed with the aerosol mixture on all exposed

parts three times a day for two days, every other day for two months, then every four days for one month, and every five days for the last month. The time interval between applications of the spray was not extended further because of lack of sunlight in the autumn.

Forty patients were sprayed with this topical mixture; all were protected if they were adequately sprayed. Four patients who were quite emotionally disturbed and confused were difficult to spray adequately and they showed some sunburn reaction in the areas where they were not properly treated, around the eyes, nose, and under the chin of one; one confused chronic schizophrenic (N. M.) ran outside several hours wearing only underclothes. On areas which had not been sprayed, she became severely sunburned. Besides the 40 patients, 3 additional patients had been asked to be included in the study but they refused to be sprayed. We purposely sprayed one male patient (R. J.) only on his left side. Observers who were not informed as to which side was sprayed were asked which side was sunburned and always indicated the side which had not been sprayed. This same patient was accidentally not sprayed for two weeks; he then began to sunburn. When this patient was sprayed again, he was protected and did not sunburn on prolonged exposure. Another patient (J. L.) sunburned severely for one month before spraying was instituted. He became well protected; later the spray was discontinued when chlorpromazine was temporarily stopped. When chlorpromazine was again started, he sunburned from minimal exposure. He was again sprayed and was completely protected.

CONCLUSIONS

This protective method will be of value in patients taking chlorpromazine. The aerosol spray is simple to apply and need not be applied more than once every five days once the protective filter is induced. It has protected patients who are on chlorpromazine, but whether it will be useful in protecting from other phenothiazine sunburn reaction we are unable to say. We expect that the broad spectral absorption characteristics of this induced topical keratin filter will protect patients who are taking other phenothiazines. Each spraying took

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only a few seconds; in our experiment we estimated that the total staff time per patient for the 4 months of the study was 30 minutes. This gave the staff more time to spend with patients as they did not have to seek every few minutes the patients who were on chlorpromazine to see if they were wearing their protective clothes. We found that this protection from sunlight permitted more freedom for the patients since they could participate in outdoor activities during the summer without fear that they would be severely sunburned.

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THE DIAGNOSIS OF CEREBRAL ARTERIOSCLEROSIS

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This study was conducted to determine whether, in cases of cerebral arteriosclerosis, the diagnosis made by the clinician was reliable and whether his assessment of 'dementia' on clinical grounds was more or less reliable than the assessment made by the psychologist on a basis of his testing. All cases at the Maudsley Hospital diagnosed as 'cerebral arteriosclerosis' and who had had psychological tests from 1949 to 1957—a total of 44—were followed-up by writing to the general practitioner and to other hospitals, and when the patient was alive by interview. Of the original cases, 26 had died and 5 were in hospital.

1. In 13 cases the original diagnosis was certainly right and all showed, on admission, focal neurological evidence of cerebrovascular disease. Of these dementia was present as follows: marked 2, moderate 4, minor 1, none 6. In these the physician's and psychologist's assessments of 'dementia' were correct in 10 cases. In 3 cases the physician's estimate of 'dementia' was somewhat more accurate than the psychologist's.

2. In 2 cases the diagnosis was probably correct on clinical grounds although signs of focal neurological damage were absent. The two assessors were in agreement.

3. In no less than 11 cases the diagnosis was certainly incorrect. One case was Alzheimer's disease confirmed by post-mortem.

Of the rest 8 were depressive illness, one was hysterical (all of whom subsequently recovered completely), and one an atypical psychosis. Yet in only 3 of these did the physicians and psychologists agree that there was no dementia present. In the others the psychologist's reports were somewhat more accurate than the physician's (if report of 'concreteness' or Goldstein's test are ignored as subsequent work has shown that such findings are to be expected in old people and depressed patients). Yet both assessors reported variable degrees of 'dementia'(3), or reported symptoms commonly associated only with organic disease of the brain(4).

4. In 2 cases an initial diagnosis of depression was subsequently changed to cerebral arteriosclerosis following a stroke. In these 2 cases, too, the psychological tests were slightly more in accordance with the subsequent train of events.

5. In 15 cases the follow-up was too short (3), insufficient information was available (7), or the diagnosis remained in doubt or obscure(5).

CONCLUSIONS

Some points of interest arose out of this study:

1. Some cases of depression(8) were misdiagnosed as suffering from dementia; the impaired powers of concentration and atten-

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tion found in depression presumably giving a false impression of impaired memory and of dementia.

2. The reverse mistake was much less common (2 in this series) and one can conclude that only a minority of cases (2 of 15 in this series) of cerebral arteriosclerosis will present without signs of focal neurological damage.

3. The presence or absence of peripheral or retinal arteriosclerosis had no bearing on the state of the cerebral vessels.

4. The small differences between the psychologist's and physician's assessment of dementia is probably of no significance particularly as the psychologists used many tests (e.g., Goldstein's) that are no longer in general use.

ADDICTIVE AND POSSIBLE TOXIC PROPERTIES OF GLUTETHIMIDE

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It is now well known that glutethimide (Doriden) can induce physical dependence in man and that the latter may be manifested by a withdrawal syndrome which includes convulsions and/or delirium (1-5). Similar findings have been reported for meprobamate (Miltown) (6-8). It has been suggested that new CNS depressant drugs be tested for their addiction liability in dogs prior to release for use in man (8, 9). The method of chronic intoxication and withdrawal has proven feasible with both barbitol sodium and meprobamate (8, 10, 11) but it has been complicated by death during chronic intoxication of the dogs used in a similar study of glutethimide. Ten dogs were given 51 to 83 mg/kg of glutethimide² by mouth once daily for 3½ weeks. The drug was then given both in the morning and afternoon each day in progressively increasing dosages for periods ranging from 113 to 168 days. Final daily dosages varied from 114 to 424 mg/kg. During the period of chronic intoxication the dogs were obviously somnolent and ataxic (staggering gait). Five of the dogs died during this period at dosages ranging from 300 to 424 mg/kg/day. The 5 remaining dogs were observed for the occurrence of convulsions following abrupt withdrawal of the drug. One of these dogs developed four major convulsions during abstinence after it had received the drug 168 days and the dosage had been increased to 300 mg/kg/day. In

view of glutethimide's demonstrated addiction potential in man the occurrence of abstinence convulsions in the dog assumes belated significance. However, if it had been possible to do adequate addiction studies in the reverse order it is conceivable that some of the cases of human addiction and resultant abstinence syndromes could have been prevented. Moreover, the high death rate in the dogs during chronic intoxication contrasts sharply with that observed in similar studies of barbitol sodium of meprobamate. Carefully controlled chronic toxicity studies of this drug may well be indicated if its use in man is continued.

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² Supplied by Ciba Pharmaceutical Products.

CASE REPORTS

PAROXYSMAL AURICULAR TACHYCARDIA APPARENTLY RESULTING FROM COMBINED THYROID-IMIPRAMINE TREATMENT

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Since hypothyroidism and depression share certain features, a depressed patient may sometimes receive thyroid extract, and a hypothyroid patient may receive an anti-depressant drug. The significance of this possibility is enhanced if the two types of medication are relatively incompatible, as this case report and animal studies suggest.

A 65-year-old woman was admitted to hospital (Day 1) with vague gastric complaints. Six years earlier she had been diagnosed as hypothyroid.

The patient had an enlarged non-nodular thyroid. She was obese; resting pulse rate was 70; tendon reflexes were sluggish. Radioactive iodine uptake was 5% in 6 hours and 9.9% in 24 hours (borderline low); butanol-extractable iodine was 3.9 gamma % (normal) and cholesterol was 242 mg. % (borderline high).

The patient was given 15 mg. thyroid per day, which was increased to 60 mg. per day.

Five weeks after discharge, the local physician reported the patient was depressed and threatened suicide. On Day 55, she exhibited typical depressive content without motor retardation. A psychiatrist recommended hospitalization and 75 mg. of imipramine daily.

On Day 62 the patient was admitted to a psychiatric center. Her resting pulse rate had increased to 85, and she had lost 12 pounds. Since different examiners were involved, it was impossible to evaluate change in tendon reflexes. No other manifestations of hyperthyroidism were noted.

The patient was observed and given psychotherapy. Thyroid dosage was maintained at 60 mg. per day, while imipramine was increased to 150 mg. per day. The patient gradually improved; on Day 67 BMR was +18; by Day 69 she slept 8 hours each night.

On Day 76 the patient complained of dizziness

and nausea. EKG revealed auricular tachycardia with a rate of 158. Carotid massage restored normal sinus rhythm; but auricular tachycardia recurred twice the same day. The patient was given phenobarbital; thyroid medication was withdrawn; imipramine dosage was maintained at 150 mg. per day. On Day 80 cholesterol was 226 mg. % (normal); on Day 82 BEI was 3.1 gamma % (borderline low).

The patient continued to improve and was discharged on Day 95 with reduced doses of imipramine.

This patient had probably suffered from depression partly manifested by somatic complaints. Initially she may have been slightly hypothyroid; on admission she was likely slightly hyperthyroid, but may have been euthyroid. In hospital the patient received thyroid each day, while possibly she had missed an occasional self-administered dose. If so, hospitalization resulted in an effective increase in thyroid medication.

The evidence for induced hyperthyroidism consists of BMR of +18 and the increase in resting pulse rate. (The patient was neither agitated nor retarded. Weight loss probably should not be cited since weight reduction had been prescribed.) Two laboratory values suggesting normal thyroid function were obtained during psychiatric admission (BEI and cholesterol), but both were obtained during the first week after the discontinuance of thyroid medication and may represent suppression of endogenous thyroid function.

To review, the patient took thyroid for about 50 days before starting imipramine. On the 20th day of combined medication, 11 days after imipramine dosage had been doubled, she experienced auricular tachycardia. Thyroid medication was stopped. The patient had never experienced cardiac irregularity before that time and has experienced none since.

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The possibility of thyroid-imipramine interaction warranted animal investigation. It was found that the imipramine LD₅₀ for hyperthyroid mice is 44% of the LD₅₀ for euthyroid mice(1). In another study, hypothyroid mice were found to be more resistant to imipramine death than euthyroid mice(2). Also it is known that in animals prolonged imipramine administration produces loss of thyroid weight and loss of body weight, and that in the cat imipramine potentiates the effect of thyroxin on heart rate(3).

With MAO inhibitors, Carrier and Buday have demonstrated increased toxicity in hyperthyroid rats(4), and Bailey, *et al.*, have noted the poor response to MAO inhibitors of depressed patients also receiving thyroid extract(5). Zile and Lardy have shown decreased liver MAO activity

in thyroid-fed rats(6).

SUMMARY

Auricular tachycardia occurred during combined thyroid-imipramine therapy. Animal studies suggest that the toxicity of both imipramine and MAO inhibitors may be increased in states of hyperthyroidism. The mechanisms involved are under study.

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DEVELOPMENT OF PARKINSONISM AFTER GRADUAL REDUCTION OF FLUPHENAZINE DOSAGE

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Until now it has been assumed generally that the occurrence of extrapyramidal syndromes in patients treated with neuroleptic drugs becomes more frequent the higher the dosage. With slowly increasing dosages the extrapyramidal signs will usually appear within a few weeks, if at all. Where a fairly large dose is given initially, especially if the drug is administered by intramuscular or intravenous injection, acute extrapyramidal reactions usually of the dyskinetic type can be observed within 24 to 48 hours. Other patients develop akathisia as soon as a certain daily dosage has been reached. In cases where the drug is suddenly increased during the course of treatment these reactions, if not already present, may occur soon after the increase.

During the last 18 months while treating more than 100 patients with neuroleptic drugs (mostly fluphenazine) we have observed 3 cases where parkinsonism did not develop until several months after the drug

had been started. Actually, the drug had already been gradually decreased from a maximum of 20-45 mg. daily over several weeks. Only when a daily dosage of 2-5 mg. was reached did the patients develop a parkinsonian reaction. Parkinsonism in these cases disappeared completely after further reduction of the fluphenazine dosage or termination of the treatment.

1. A 22-year-old white male patient who was deluded and hallucinated and showed little expression of affect was first started on fluphenazine on Mar. 13 (2 mg., i.m., t.i.d.). Three days later he was placed on p.o. medication (5 mg. t.i.d.). The dosage was gradually increased until a maximum of 15 mg. t.i.d. was reached on Apr. 16. When, finally, on May 19 a moderate improvement had been accomplished dosage was gradually reduced. On May 28 he received 10 mg. t.i.d., on May 30 10 mg. b.i.d., on June 5 5 mg. t.i.d. and on June 14 5 mg. b.i.d. During all this time no noticeable extrapyramidal signs had been observed. On June 27 dosage was decreased to 5 mg. once daily. The following day the patient exhibited a rather severe parkinsonism

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which receded completely 3 days after the drug had been discontinued.

2. This 37-year-old white married man, a farm laborer, had entered the hospital because of systematized religious delusions. He was diagnosed as paranoid schizophrenia and had been given the same diagnosis on 2 previous occasions. He was started on 5 mg. of fluphenazine b.i.d. on Oct. 10. There was some initial improvement, but when further progress failed to substantiate the dosage was increased on Nov. 29 to 10 mg. b.i.d. Subsequently, his delusions disappeared gradually. He became more sociable. His improvement continued after the medication had been decreased to 5 mg. b.i.d. on Dec. 28. There was a minor relapse during January, but no change of medication was needed. He improved again and the dosage was further reduced on Feb. 20 to 5 mg. once daily. While there had been no extrapyramidal symptoms during the course of drug treatment so far, on Feb. 21 he showed a rather severe oral syndrome with involuntary protrusion of the tongue, spasm of the masticatory muscles and facial twitching followed by a pronounced parkinson syndrome with gross tremors, muscular rigidity and sialorrhea which subsided within 3 days after further reduction of dosage to 1 mg. b.i.d.

3. Another paranoid schizophrenic, 38 years old, had been ill for several months prior to his admission to the hospital. He was hallucinated in the auditory field and had delusions of persecution. On Jan. 9 he was started on intramuscular fluphenazine (1 mg. t.i.d.). On Jan. 15 he was placed on 5 mg., p.o., b.i.d. The dosage was increased on Jan. 18 to 5 mg. t.i.d. and again on Jan. 24 to 10 mg. b.i.d. There was good improvement, and the dosage was reduced on Feb. 1 to 5 mg. t.i.d. and on Feb. 5 to 5 mg. b.i.d. Because of a slight set-back he was again placed on 5 mg. t.i.d. on Feb. 16, but responded promptly and was therefore reduced again on Mar. 2 to 5 mg. b.i.d. On Mar. 10 he was placed on 5 mg. once daily and on Mar. 16 on 1 mg. b.i.d. Two days later there appeared rather suddenly a moderate but clearly noticeable muscular rigidity, especially of the upper extremities, the typical parkinsonian posture, and slight tremors of the hands. His facial expression was mask-like with the saliva dropping from his mouth. No such signs had been noticed before this date, and there had not been any signs of akathisia or dyskinetic reactions either. The extrapyramidal syndrome vanished within 2 days after the drug had been discontinued.

PSYCHOLOGICAL STRESS AND PETIT MAL VARIANT, A TELEMETER STUDY¹

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The simultaneous study of behavior and telemetered brain waves has not altered appreciably since 1960(1). The latest telemeters, 2.7 cm. in diameter and 0.8 cm. in thickness, transmit the subject's brain waves to a portable, 2-channel frequency modulated receiver and accompanying amplifiers. A 16 mm. sound camera simultaneously records on the film the child and the trace of a small inkwriter built into the camera

assembly. A detailed report of all instrumentation is in press(2).

The child, nearly 7 years old at the time of the filming, was referred to our Children's Service when 4½ years old because of a behavioral regression which followed a head injury at age 3.

He had developed normally except for some minimal gait difficulty in his second year, before his fall.

At age 2 years he fell 25 feet, without apparent loss of consciousness, incurring a fracture of his skull and right femur. Neurological consultation revealed no abnormalities.

He gradually became hyperactive, regressed in toilet training and speech, and by age 3 years he had stopped using any meaningful speech. At age 2½ years minor motor seizures began and continued in clusters of 2 to 6 seizures about every two months despite varied

¹ This is a modified version of a paper "Telemetering of Brain Waves and Behavior Problems," read at the 91st annual session of the California Medical Ass., San Francisco, April 1962. This study was supported in part by State of California Department of Mental Hygiene Grant #60-1-23, "Development of a Technique for and a Pilot Study of Behavior and Brain Waves."

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anticonvulsive regimens. In addition, he has had a rare grand mal seizure.

He was admitted as an inpatient when 4½ years old. During his 2½ years of hospitalization prior to the filming, he had mastered a few self-care skills but learned at an extremely slow rate, remaining mute except for an occasional word or vocalization. He responded, at times, to verbal instructions.

Physical examination has remained negative except for a questionable Babinski reflex, inconstant throughout numerous neurological and neurosurgical consultations. Repeated pneumoencephalograms have revealed no definitive abnormalities. EEGs have been grossly abnormal and of the hypsarhythmic type.

The following sequences were illustrated by the motion picture film presented at the meeting. One sequence illustrated the relationship between emotional stress and a possible petit mal variant. The therapist handed clay to the child who tossed it into a can. When the supply was exhausted, the child appeared disappointed and stopped his play. Concurrently, a buildup of paroxysmal spike and dome discharges culminated about 4 seconds later in a several-second period during which he was motionless and unresponsive to the therapist's questions. The sequence also illustrated how such a transient petit mal variant might be misinterpreted as "the child's mind wandering for a moment." At other times paroxysmal bursts of less amplitude and shorter duration could not be correlated with either his emotional state or any observable change in behavior. It seemed, however, that during moments of evident pleasure and relaxation such as his sucking on a piece of clay, there was little or no evident paroxysmal activity. Once, as he intently looked at the camera during a period of paroxysmal bursts, the trace returned to a relatively more normal pattern. This is in accord with the experience that some patients can abort the development of a seizure by

focusing their attention on a particular subject or object.

It would be premature to generalize at this point about such data, but the technique augurs to be helpful in the further study of behavior and brain waves.

SUMMARY

The study of behavior and the electroencephalogram has been enhanced by sound motion picture photography and EEG telemetry. The technique led to an unexpected degree of reduction of muscle and electrical artifacts resulting from the elimination of strong electrical fields previously produced by moving electrode wires. The data are permanently available for repeated study and evaluation.

A study of the first film produced using these techniques led to the following observations: 1. In one instance what appeared to be a petit mal variant seemed to follow the child's disappointment. A buildup of paroxysmal activity on the EEG culminated in a momentary lapse in the child's responsiveness. 2. Other paroxysmal dysrhythmias of less amplitude and duration could not be correlated with any apparent change in behavior. 3. During periods of pleasurable activity and relaxation, his EEG returned to a relatively normal appearance. 4. One instance of the child's focusing his attention, apparently aborting a dysrhythmic buildup, was described.

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HEPATIC ENCEPHALOPATHY AS A PSYCHIATRIC PROBLEM¹

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Hepatic encephalopathy has long been recognized as a complication of the terminal stages of liver disease(1). As its devel-

opment in chronic liver disease is usually associated with deterioration of hepatocellular function as shown by jaundice and fluid retention(2, 3), the diagnosis is usually obvious on clinical examination. But when it occurs in the presence of well-compensated liver disease, its features may dominate the clinical picture(4, 5) and cases

¹ I am indebted to the Honourable Director of Medical and Health Services, Hong Kong, for permission to publish.

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have even been initially admitted to psychiatric hospitals (4, 6). Because of their rarity, the ease with which the diagnosis may be missed and the importance of early treatment, two such cases, recently admitted to this hospital, are briefly described. In both, there was paucity of the customary history and physical signs of liver disease.

Case 1. A 40-year-old Chinese man was admitted for psychiatric observation after an episode of violent behaviour. The history could be obtained only from his wife. He had been a seaman, and, $3\frac{1}{2}$ years previously, was hospitalized in England for an unknown illness. Six months later, on his return to Hong Kong, he showed gross personality changes and intellectual impairment and subsequent unsteadiness of gait. As far as could be ascertained, he had never had any manifestations suggestive of liver disease or an operation relevant to it.

On examination, he was grossly confused and violent. He showed evidence of generalized and patchy involvement of the extrapyramidal and pyramidal systems, with parkinsonic facies, hypersalivation, slurred and explosive speech, generalized fine tremor, "flapping" tremor, clumsiness, hypertonia and hyperreflexia in the upper limbs and absent abdominal reflexes. An old linear scar ran along the level of the ninth right rib the major portion of which was missing. There was no sign of liver disease.

Laboratory investigations done shortly thereafter revealed: Hb 11.8 g./100 ml. (80%); r.b.c. 4,740,000; w.b.c. 5,350/c.mm. (neutrophils 62%, lymphocytes 34%, eosinophils 1%, basophils 1%, monocytes 2%); platelets 122,000/c.mm.; albumin 3.6 g./100 ml.; globulin 2.6 g./100 ml. Van den Bergh: direct delayed; indirect 0.7 mg. bilirubin/100 ml. Cholesterol 210 mg./100 ml. (ester 160, free 50). Alkaline phosphatase 20 K.-A. units. Thymol flocculation 4+, thymol turbidity 4, and zinc turbidity 8 units. Urea 40 mg./100 ml. Urine: urobilinogen present in increased amounts; bile pigment and salts absent; uric acid 0.4 g., copper 102/ μ g., and total amino-acid nitrogen 86 mg. in 24 hours. CSF normal. Chest x-ray showed a partial resection of the ninth rib. Skull x-ray normal. EEG grossly abnormal, with a dominant rhythm of 3-4 c/s high voltage waves, widespread and bilaterally synchronous.

Treatment included withdrawal of dietary protein, and oral administration of glucose and aureomycin. He recovered maximally in 3-4

days and was left with mild personality changes.

The history later given by his former doctors and the patient may be summarized: At the onset he had a portacaval anastomosis for an episode of bleeding from oesophageal varices due to portal cirrhosis. The operation was followed by a short period of confusion and two months later he was hospitalized elsewhere for "schizophrenia." At this time he had slight dependent oedema and abdominal distension. During the subsequent 4 years, however, he had no manifestations of liver insufficiency, apart from the encephalopathy.

After 3 months' hospitalisation he was discharged on a low-protein diet. He remained in reasonably good health for one year. Thereafter he was unable to restrict his diet, his condition progressively deteriorated and he had several exacerbations of the encephalopathy.

Case 2. A 49-year-old Chinese farmer was admitted with a history of confusion for one week, culminating in semistupor. During the previous 15 months he had had more than 10 episodes of confusion, each lasting two to three days and accompanied by generalised tremor and unsteadiness of gait. On these occasions he would confine himself to bed and could be aroused only with difficulty. Between episodes he appeared almost well but was unable to cope with his former work. He had never had symptoms of liver disease but had been drinking heavily for the previous 10 years. The drinking was not related in time to the confusional episodes.

On examination, he was lethargic and mute, and shortly after admission became unresponsive to painful stimuli. There was evidence of impairment of extrapyramidal and pyramidal systems. He had a moderately fine tremor of hands on voluntary movement, a suggestion of "flapping" tremor, and sluggish reflexes in the lower limbs and absent abdominal reflexes. There were a few spider angiomas in the upper chest region.

Investigations at the time revealed: Hb 11.7 g./100 ml.; w.b.c. 6,000/c.mm.; polymorphs 4,100/c.mm.; E.S.R. 11 mm./hr. (Westergren); bleeding time 3 and clotting time (Macfarlane and Bigg's modification of the Lee and White method) 4 mins. Van den Bergh direct, negative; total bilirubin 1.2 mg./100 ml. Total protein 6.3, albumin 2.6 and globulin 3.7 g./100 ml. A/G ratio 0.7. Thymol flocculation negative, thymol turbidity 1, and zinc sulphate turbidity 2 units. Alkaline phosphatase 8 K.-A. units. SGOT 18 and SGPT 15 units (Karmen)/100 ml. Total cholesterol 190,

ester 140 and free 40 mg./100 ml. Blood V.D.R.L. positive. Urine, C.S.F. (including V.D.R.L.), x-rays of skull and chest and Barium Swallow for oesophageal varices were all negative. EEG : when stuporose—irregular, symmetrical, generalised 3 c/s waves of 80 μ V ; in lucid intervals—normal. Liver biopsy : cirrhosis.

He was treated with protein-free diet, glucose and neomycin and was much improved on the third day. On discharge he had residual mild intellectual impairment only.

Two cases of hepatic encephalopathy occurring in the presence of well-compensated chronic liver disease and presenting as diagnostic problems are described. The

importance of early recognition and proper treatment of such cases is stressed.

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HISTORICAL NOTES

FAMILY CARE OF MENTAL PATIENTS

CYRIL GREENLAND, A.A.P.S.W.¹

During the past year two articles dealing with family care of the mentally ill appeared in this Journal. The first (119: 116, 1962) dealt with the decline of family care in the Belgium village of Gheel; the second (119: 154, 1962) described the growth of family care in Norway. The purpose of the present historical note is to describe briefly the fate of a Japanese "Gheel" in the village of Iwakura near Kyoto.

According to tradition the third daughter of the Emperor Gosanjo, who reigned from 1068 to 1072, developed melancholia in her eighteenth year. After praying night and day to get her well, the Emperor had a divine inspiration. Obeying this he confined his daughter to Daiunji, a temple at Iwakura, where everyday she drank from the holy fountain. It seemed that the water had healing effects on mental illness and soon the Princess was fully restored to health.

This news quickly spread and brought fame to the temple. As a result the mentally ill in great numbers came there to be cured. At first three small inns were constructed to receive them. Later tea-houses, villas and cottages were established to provide accommodation for the ever increasing population. These patients prayed to the principal image, Ekadasamukha (the Goddess of Mercy with eleven faces), drank the waters and bathed in the waterfall until they too were recovered.

In 1884 at the request of their government the people of the village built the first

Iwakura Mental Hospital which had 450 beds. The medical staff supervised the inns and cottages which continued to care for patients. Some of the large inns, by now called health resorts, took in as many as 40 patients, the smaller ones about 15.

Most of the cottages provided family-care for two or three patients. They usually shared the occupation of the households which was mainly out-door employment in the fields, gardens and forests. The attitude of the people of Iwakura to patients was friendly and understanding and their village was regarded as a most suitable place for the care of the mentally ill.

Towards the end of World War II the Iwakura Hospital was taken over by the military and used as an army hospital. Later it became a home for the aged of Kyoto prefecture. As the mental hospital was closed the number of patients in health resorts and cottages decreased. They were completely gone in 1950 when the Government made it illegal to care for the mentally ill except in a hospital. It is not expected that the colony system at Iwakura will be restored.

The present Iwakura Mental Hospital, with 460 beds was built in 1953. It is a well equipped hospital of modern construction. Dr. K. Kubo, the director and psychiatrist-in-chief writes² "Patients on the open-wards have all the freedom; they enjoy walking around the neighborhood and playing ball-games *etc.*, just like most of the Western style hospitals."

¹ Director of Social Work, Toronto Psychiatric Hospital.

² Personal communication.

COMMENTS

SIGNIFICANCE OF THE EARLY 19TH CENTURY CONTROVERSY REGARDING SHOCK THERAPY VS. MILIEU THERAPY

Psychiatrists today differ as regards the relative values of shock therapy and milieu therapy. It is interesting to note that the current dispute is a repetition of one that occurred in the first half of the 19th century.

The start of that century saw the introduction of shock therapy in the form of centrifugation of patients. Cox, who originated the treatment, wrote: "This is a new remedy in the treatment of maniacs, and it is one of very extensive powers and properties, both as a medical and moral mean. . ." (1).

Several pages of description of devices for centrifuging patients are followed, in the third edition of Cox's book, by more than 20 pages of indications for and effects of the treatment. Of particular interest is the comment on anorectic patients:

But there is another class of maniacs, who, bent on suicide and having been prevented from accomplishing their purpose by other means, have effected it by starvation, in spite of every precaution that could be devised; for such cases the swing offers a dernier resort, and effects of which, judiciously regulated, have counteracted the horrible purpose, either from a dread of the repetition of the painful process, or from exciting new ideas and obliterating the old ones. Hence such patients have been induced to take food, and thus life has been preserved.

William S. Hallaran summarized his 3 years' experience in his book, published in 1810. He wrote(2):

In several cases of continued insanity, where I have been induced to call in the aid of the swing as a demiere resource, I have been most agreeably surprised at the unexpected alteration which it had effected after three or four trials. In some, who from an inclination to commit assault, and who through necessity, had been closely confined to solitary apartments, it had so operated, as not only to render them easy of access, but also of kind and gentle

manners, and in the end, of the most willing disposition to aid the servants of the house, in the usual occupations of cleanliness, and in the attendance of others. . .

Prichard reviewed the situation in 1835 in the following words(3):

Darwin, in modern times, made the proposal known. A rotatory couch, in which the patient was to be turned around with rapidity in a horizontal position, was the plan recommended by the last mentioned writer. Dr. Cox, who brought the suggestion into actual use, improved also on the scheme. He used a swinging or rotatory chair, in which the patient remained seated during the operation. Hallaran and Von Hirsch have recommended a ship-bed or hammock. In the hospital of La Charité at Berlin, rotatory machines on both principles are constructed; one for horizontal and the other for perpendicular rotation. The application of this remedy has been still further varied by Dr. Hoven and by Hayner.

That it must be advantageous to a medical practitioner who has the care of maniacs to have within his reach the means of reducing occasionally the morbid activity of such persons by thus lowering the energy of the physical powers, could scarcely admit of doubt. Experience confirms this presumption. Some writers have, indeed, ridiculed the idea of attempting such a remedy, and others have thought it difficult to imagine on what principle it can be of any service; but those practitioners who have put the proposal to the test of experiment have, if I am not mistaken, in most instances been convinced of its utility.

The rotatory swing is also useful as a method of moral restraint. Its effects are so disagreeable that the threat of a repetition has a salutary influence upon turbulent and untractable patients. . .

It is interesting that the beneficial effects of this type of shock therapy were ascribed by Hallaran to its being a form of punishment, whereas Cox emphasized its physiologic effects, including those on the sympathetic nerves. Cox based his conclusions on

the premise that "passion, in a physiologic sense, may be defined as an affection of the nervous system, communicated from the brain to the sympathetic or visceral nerves. . . ." The works of Guislain and of Hirsch illustrate the machines used; it is evident that the most elaborate and best-constructed were made in Germany.

In the meantime, milieu therapy was being employed more and more widely in England and to some extent in the Netherlands; however, German physicians regarded it as valueless. John Conolly, a leading exponent of milieu therapy in England, wrote a book in 1856(4) that described this treatment in words that would sound familiar to modern psychiatrists who have rediscovered this form of treatment.

With remarkable self-satisfaction Conolly described the effects of changes he made at the Middlesex Lunatic Asylum at Hanwell: he discussed such topics as "disuse of mechanical restraints," "the number of attendants increased," "vigilance and moral management substituted for restraint," "want of resources in offices and attendants accustomed to rely upon restraint," "necessity of *forbearance* in the management of lunatics," "no mechanical restraint resorted to for ten years," "reception and treatment of a newly admitted patient," "occupations, etc., in the day time," "evening entertainments," and "necessity of having kind and conscientious attendants." Over 50 pages of text were used to describe the spread of his ideas to other English hospitals.

Conolly noted that "in all asylums the statistical registers show that the recoveries, in the recent cases admitted, are in the first year numerous; that in the second year from the commencement of the malady they are much fewer; and that in the third and subsequent years they become rare." He then claimed, without recourse to published statistics, that in good hospitals "one-half, perhaps two-thirds, of the recent cases recover; whilst not one-third, perhaps not one-fourth, of those recover who are injudiciously treated on the first appearance of the malady." Conolly is modern not only in his views about how to use milieu therapy but also in proclaiming, without relying on data, its superiority over all other forms of

treatment. As might be expected, Conolly sneered at shock therapy and emphasized untoward reactions to it:

We read with almost as much amusement as wonder the respectful acknowledgment of Dr. Hallaran, that Dr. Cox made known to the profession the "safe and effectual remedy" of the circulating swing, the invention of which Dr. Cox "Generously gives the credit of" to Dr. Darwin; this invention being one by means of which the maniacal or melancholic patient, fast bound on a sort of couch, or in a chair, was rotated at various rates up to one hundred gyrations in a minute . . . It is acknowledged that patients once subjected to the swing were ever afterward terrified at the mention of it; that it lowered the pulse and the temperature to such a degree as to alarm the physician; that it occasioned a "disagreeable suffusion of the countenance," frequently leaving an ecchymosis of the eyes; that it acted as an emetic, and as a hypercathartic; but still it was lauded as reducing the unmanageable, and, stranger still, as causing the melancholy to take "a natural interest in the affairs of life." . . . effects mentioned were induced more certainly when the patient was in the erect position. Worse consequences occasionally resulted, I believe, from this barbarous invention; which probably rendered Dr. Hallaran's recommendation, that no "well regulated institution intended for the reception and relief of insane persons" should be unprovided with a machine of that description, ineffectual.

The use of whirling-chairs, baths of surprise, violent affusions over the body, prolonged immersion in water, and all similar devices, are universally condemned.

Although the specific content of the 19th situation in psychiatry at that time and what obtains now is that Conolly was very much under the influence of an intuitive Viennese system of thought, phrenology. Many modern advocates of milieu therapy are under the influence of another system of intuitive ideas that originated in Vienna.

Although the specific content of the 19th century controversy here described differs from the current controversy between those who advocate shock therapy and those who favor milieu therapy, the basic factors in the dispute are obviously the same. It is evident that the controversy arose then, just as it arises now, because neither type of treat-

ment is curative in all types of psychosis ; indeed, neither is demonstrably effective in securing remissions in chronic cases. The controversy here discussed will undoubtedly continue until a successful specific treatment for currently incurable psychoses (analogous to the specific treatments for the formerly incurable syphilitic and pellagrous psychoses) is discovered.

Mark D. Altschule, M.D.,
Waverley, Mass.

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THE HUMAN MIND

I may be obsessed, or suffering from anthropocentric illusions, but I cannot escape the feeling that the human mind and human curiosity are significant in this world—even perhaps in the cosmos of geological time and intergalactic space. With this impression (or illusion) that the mind is the best of us, and the best of biological evolution, I cannot escape (and neither can you !) the feeling of a responsibility to glorify the human mind, take it seriously, even dream about its ultimate flowering into something far beyond the primitive muscle-guider and sensation-recorder with which we started.

—HARLOW SHAPLEY

CORRESPONDENCE

MASS MEDIA EFFECTS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: I hope that American psychiatrists who are concerned with the problem will not be deterred from reading *Television in the Lives of Our Children* by Professor Wilbur Schramm, Jack Lyle, and Edwin B. Parker because of Dr. Fredric Wertham's criticism in the October 1962 issue of the *American Journal of Psychiatry*.

Professor Schramm's research was the most carefully planned and executed, comprehensive and significant study of this question which has thus far been carried out in the United States. Mr. Schramm and his colleagues report their findings with precision and their conclusions with caution. Their discussion of the relevant issues is wide-ranging, incisive and fair-

minded. It carefully presents and analyzes investigative findings and opinions which differ from as well as support their own.

No one, least of all Professor Schramm, claims that we know enough about the impact of television and other mass media on the development of our children. The answer of course must be sought in research. These badly needed investigations should include the clinical evaluation of representative individuals as Dr. Wertham suggests. They cannot, however, ignore the potent contribution of communications theory and research techniques in which Professor Schramm is a pioneer and leading contributor.

Lawrence Zelic Freedman, M.D.,
University of Chicago.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The difference between books of the type of Wilbur Schramm's *Television in the Lives of Our Children*, to which Dr. Freedman contributed, and my own clinical studies is, I am afraid, fundamental. To quote *Faust*: "What separates us is reality."

Professor Schramm writes that in respect to television "the term 'effect' is misleading because it suggests that television 'does something' to children." I think it does, and that the term is indispensable. The saturation of children's minds with violence,

brutality and sneering sadism is doing, and has done, unquestionable harm.

It is unfortunate for American children that the shortcomings of methodology in so much of behavioral science research have led to wrong conclusions. It is not enough, as Dr. Freedman suggests, to "include the clinical evaluation of representative individuals." The whole point of view has to be corrected. It is the clinical examinations that must be the foundation, and not questionnaires.

Fredric Wertham, M.D.,
New York, N. Y.

BLEEDING STIGMATA

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Therese von Kornersreuth died recently at the age of 64. She was a poor tailor's daughter, who had bleeding stigmata at her palms and felt she suffered Christ's agony. She had spent practically

all her life in bed in a small village in Bavaria.

Her stigmata were repeatedly examined and interpreted both by churchmen and physicians. The religious men said, approximately, the distilling retort of the chemist cannot solve problems that belong in the

realm of the mystical. Some Catholic physicians of the time (1931) likewise wrote that scientists must have the courage to admit that there are supernatural revelations. Nobody went far, however, as the editor of the *Münchener Neueste Nachrichten*, Fritz Gerlich, who declared that on account of his training as a historian he must accept the facts about Therese von Kornersreuth as completely verified.

Against these voices, physicians showed that bleedings may be accounted for without resorting to the supernatural. In Karl Jaspers' *Allgemeine Psychopathologie*, (7th

edition, Berlin : Springer Verlag, 1959) a number of authors are listed who wrote on skin stigmata : Kohnstamm and Binner, 1908 ; Heller and Schultz, 1909 ; Pollak, 1938 ; More, 1914 and Rudolph Schindler, 1927. The paper by Schindler deals specifically with the stigmata in the hands of Therese von Kornersreuth and relates them with observations on skin effusions under the influence of various, among them also non-religious, emotions.

W. G. Eliasberg, M.D.,
New York, N. Y.

WAR PSYCHOSIS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : This letter is prompted by an item in the minutes of a recent meeting of the Executive Committee, referring to a request of a member for the appointment of a committee to study "alternatives to war." I hope an increasing number of our membership have this matter on their minds as a proper subject for study by the American Psychiatric Association. The request was presumably referred to the Committee on International Relations.

You will recall that this was the subject of my presidential address (read at the Richmond meeting in May 1941 and published in the Journal in July 1941), entitled "The Psychiatric Public Health Aspects of War." I had deviated from the usual subject matter of presidential addresses because this subject was closest to my heart and because I considered it a field in which modern psychiatry should play an important role. It was also timely, World War II having begun more than a year previously for many nations, and only months later Pearl Harbor was to bring the United States into the conflict.

My thesis was that as "wars begin in the minds of men," and as psychiatry's main field is the minds of men, in their psychopathological reactions, psychiatrists could not avoid responsibility for study in this field and for attempting to do something about it, in co-operation with all the other

social sciences. The public health aspects of war are, of course, the damage and destruction to the minds and bodies of so many people throughout the world. In that address I called for the appointment of a Committee on International Relations, which was appointed for the first time the following year by my successor, the late Dr. James K. Hall. It was my hope that such a Committee would undertake serious study of the problems involved and would attempt to bring into inter-governmental bodies psychopathological interpretations of international wars (cold and hot) and hopefully find some preventive and psychotherapeutic skills to aid in removing eventually one of the most devastating public health menaces—war. During the intervening 21 years great progress has been made in overcoming mankind's natural enemies—leprosy, tuberculosis and polio, to mention only three—but there is no evidence that any real scientific progress has been made to overcome mankind's worst enemy—man.

I presented a second paper on this subject to the Association, entitled "International Psychiatry in the Post-War World," (published in our Journal in January 1944), in which I extended and enlarged some of the ideas in my earlier paper. Reprints of both papers are available on request.

The purpose of this letter is to challenge again our Association, and its Committee on International Relations, to their full respon-

sibility in the field of international psychopathology in the hope that, even if it is too late to prevent World War III (or is it?), World Wars IV, V, VI, *etc.*, may never occur.

May I conclude by quoting a paragraph from my 1941 address, which I hope will strengthen the response to this challenge:

If events are left only to political leaders and to the emotional reactions of the leaders and the lead, you and I know that in 1965, or some such year, the babies our colleagues are now ushering into the world will suffer and die by the millions in another fratricidal war. The ordinary man, the ordinary woman and

child, pay in blood, tears and taxes for this fearful psychosis, a psychosis essentially preventable, not preventable by us alone, or by any group alone, but by the intelligent co-operation of all bodies in the social sciences, not least of which should be preventive psychiatry . . . Who can foresee the achievements of psychiatry in the next hundred years? When the history of our second century comes to be written, may it be recorded that the American Psychiatric Association was largely responsible for the elimination of the international psychosis—war.

George H. Stevenson, M.D.,
767 Ilalo Street,
Honolulu 13, Hawaii.

PRESENTING A PAPER

In my opinion the reading aloud of a written paper is a cardinal sin, as deplorable as meretricious writing; it is a wicked procedure utterly contemptuous of the audience and unfair to it.

—GEORGE SARTON

NEWS AND NOTES

NEW YORK OFFICE CHANGE OF ADDRESS.—The New York office of the American Psychiatric Association and of the Business Manager of the *American Journal of Psychiatry*, Mr. Austin M. Davies, is now Room 1700, 1270 Avenue of the Americas, New York 20, N. Y. The phone number remains the same, CIRCLE 5-8844.

CANADIAN MENTAL HEALTH ASSOCIATION PLANNING COUNCIL.—The National Scientific Planning Council of the Canadian Mental Health Association announces the establishment of a *Committee on the Law* in relation to psychiatric disorders and services. The Committee comprises physicians and lawyers under the chairmanship of Dr. F. C. R. Chalke, Professor of Psychiatry, University of Ottawa, and will concern itself with the essential requirements to be met by legislation, the changes necessary in the light of changes in patterns of psychiatric care, and with the principles of legislation.

Communications from interested persons are welcome and should be addressed to the Secretary of the Committee, 11½ Spadina Road, Toronto 4, Ontario.

AMERICAN SOCIETY OF CLINICAL HYPNOSIS.—The Society will hold its 6th annual meeting at the Jack Tar Hotel, San Francisco, Calif., Oct. 10-13, 1963.

FEDERAL GRANT-IN-AID PROGRAM.—Dr. Luther L. Terry, Surgeon General of the Public Health Service, announced that \$4.2 million will be made available through the National Institute of Mental Health on a matching basis with each state receiving at least \$50,000.

Dr. Robert H. Felix, Director of NIMH, presented tentative guidelines for the grant-in-aid program, pending formal publication of the guidelines and regulations governing the program.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The 1963 schedule of examinations to be given by the Board is: Mar. 30, Apr. 1-2, 1963—New Orleans, La.; Oct. 12, 14-15, 1963—Chicago, Ill.; Dec. 7, 9-10, 1963—New York, N. Y.

The following are new Diplomates certified by the Board at the examinations held in New York, N. Y., Dec. 8-11, 1962.

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 Stocking, Myron, M.D., Boston, Mass.
 Sullivan, John J., Jr., M.D., Stamford, Conn.
 Tannenbaum, Gerald, M.D., New York, N. Y.
 Temby, William Davenport, M.D., Cambridge, Mass.
 Thomas, Claudewell S., M.D., West Haven, Conn.
 Thomas, Robert Eugene, M.D., Los Angeles, Calif.
 Trattner, Robert E., M.D., Baltimore, Md.
 Van Antwerp, James D., M.D., Kansas City, Kans.
 Wachspress, Morton, M.D., Kew Gardens, N. Y.
 Wagner, Roy Sherwood, M.D., Imola, Calif.
 Walden, Robert Edison, M.D., Lakin, W. Va.
 Wallach, Helen Davidoff, M.D., Cambridge, Mass.
 Walton, Judith D., M.D., Madison, Wis.
 Warsaski, Abraham, M.D., New York, N. Y.
 Wawrose, Frederick E., M.D., Philadelphia, Pa.
 Weaver, Glenn M., M.D., Cincinnati, O.
 Weber, Emile S., M.D., Belle Mead, N. J.
 Weisselberger, David, M.D., New York, N. Y.
 Wolff, Peter Hartwig, M.D., Boston, Mass.
 Woloshin, Arthur Abraham, M.D., Chicago, Ill.
 Yero, Oscar, M.D., Wichita Falls, Tex.

NEUROLOGY

Blakey, Leslie Winfield, M.D., Lexington, Ky.
 Blaw, Michael E., M.D., Minneapolis, Minn.
 Brancazio, Dominic A., M.D., Bronx, N. Y.
 Duggins, Virginia A., M.D., Arlington, Va.
 Dyck, Peter J., M.D., Rochester, Minn.
 Edwards, Charles E., M.D., Washington, D. C.
 Erringer, Milton G., M.D., Minneapolis, Minn.
 Fine, David Isaiah Marshall, M.D., New York, N. Y.
 Gold, Arnold P., M.D., New York, N. Y.
 Goldblatt, David, M.D., Baltimore, Md.
 Greenhouse, Arnold H., M.D., Denver, Colo.
 Hardie, John, M.D., White Plains, N. Y.
 Higgins, Don Cheney, M.D., New Haven, Conn.
 Lewin, Edward, M.D., Belmont, Mass.
 Mayle, Francis Carl, Jr., M.D., Bethesda, Md.
 Menkes, John H., M.D., Baltimore, Md.
 Norris, Forbes Holten, Jr., M.D., Rochester, N. Y.
 Pegues, Josiah James, M.D., Moorestown, N. J.
 Schneck, Stuart A., M.D., Fort Lee, N. J.
 Sidell, Alvin Donald, M.D., Phoenix, Ariz.
 Silverstein, Allen, M.D., Jamaica, N. Y.
 Wachs, Hirsch, M.D., New York, N. Y.

Walsh, Faith C., M.D., Morristown, N. J.
 Weitzman, Elliot D., M.D., Bronx, N. Y.

The following are those certified in Child Psychiatry at the Board meeting in Chicago, Ill., Feb. 4-5, 1963:

Boonin, Nathaniel N., M.D., Princeton, N. J.
 Briggs, Leon R., Jr., M.D., Boston, Mass.
 Corman, Harvey H., M.D., New York, N. Y.
 Durant, Nancy Agnes, M.D., Plainfield, N. J.
 Easton, Karl, M.D., New York, N. Y.
 Egan, Merritt H., M.D., Salt Lake City, Utah
 Goldfarb, William, M.D., New York, N. Y.
 Gross, George Emanuel, M.D., New York, N. Y.
 Haber, Joseph, M.D., Brooklyn, N. Y.
 Haber, Sidney A., M.D., White Plains, N. Y.
 Halpern, Werner I., M.D., Rochester, N. Y.
 Huessy, Hans R., M.D., Jericho, Vt.
 Huff, Elizabeth, M.D., New York, N. Y.
 Josephson, Martin M., M.D., New York, N. Y.
 Judas, Ilse, M.D., Chicago, Ill.
 Klassen, Otto Dyck, M.D., Elkhart, Ind.
 Krims, Marvin Bennett, M.D., Newton Center, Mass.
 Kuhn, Charles P., M.D., Miami Beach, Fla.
 Laybourne Paul Curtis, Jr., M.D., Kansas City, Kans.
 Lordi, William M., M.D., Richmond, Va.
 Meza, Pedro, M.D., Port Huron, Mich.
 Mitchell, Nellie Louise, M.D., Jersey City, N. J.
 Ornitz, Edward M., M.D., Los Angeles, Calif.
 Pavkovic, Anthony, M.D., Chicago, Ill.
 Rothenberg, Michael Bruce, M.D., New York, N. Y.
 Schechter, Marshall D., M.D., Los Angeles, Calif.
 Schnee, Henry I., M.D., Long Island, N. Y.
 Schomer, Jesse, M.D., New York, N. Y.
 Yorborg, Leon, M.D., New Rochelle, N. Y.
 Bruch, Hilde, M.D., New York, N. Y.
 Prugh, Dane Gaskill, M.D., Rochester, N. Y.
 Wermer, Henry, M.D., Chestnut Hill, Mass.

LYNCHBURG TRAINING SCHOOL LECTURE SERIES.—Feb. 28, 1963—T. R. Johns, M.D., Diseases of the motor unit.

Apr. 18—Miss Eleanor J. Collard, R.N., Psychiatric nursing of the mentally ill and mentally retarded.

May 2—Alanson Hinman, M.D., Reduction of drug therapy in the therapeutic environment.

May 16—Bernard Scher, Ph.D., Diagnosis and treatment of retardation.

June 20—James D. Beaber, Ed.D., Education of exceptional children.

BERKSHIRE FARM INSTITUTE FOR TRAINING AND RESEARCH.—This Institute has been established at Canaan, New York to provide training to persons planning to work in juvenile delinquency, to conduct research, and to disseminate information to interested persons. Field work placement opportunities will be offered for social workers along with internships for psychologists and psychiatrists and training for special teachers, and others in related activities.

The Institute director, George H. Weber, was formerly Chief of the Technical Aid Branch of the U. S. Children's Bureau. Persons interested are invited to communicate with the Director, Berkshire Farm Institute for Training and Research, Canaan, New York.

UNIVERSITY OF MONTREAL TRAINING IN CRIMINOLOGY.—An autonomous department of criminology has been established since June, 1961. The interdisciplinary program is organized for teaching graduates with bachelor's degrees (honours), graduates in social work, sociology, psychology, or law. Requirements: two years residence; a dissertation; supervised externships, leading to a Master's degree in Criminology. In June, 1963, laboratory facilities will be available for training in research. Over thirty students are enrolled in the department, the first of its kind of Canada. There are 10 staff members, 6 of whom are full time.

KORZYBSKI—GENERAL SEMANTICS.—The 25th Anniversary of the Institute of General Semantics will be celebrated at the International Conference, Aug. 13-16, 1963 at New York University.

The 1963 Alfred Korzybski Lecture will be given by the distinguished surgeon and director of physio-biological research for the Navy of France, Dr. Henri Laborit of Paris. Dr. Laborit is a member of the French group that launched the Association Européenne de Semantique Generale. He dedicated to Korzybski his latest book, *De soleil à l'homme—L'organisation énergétique des*

structures vivants. For his work in psychopharmacology he received the Lasker Award in 1957.

CONFERENCES ON CONGENITAL MALFORMATIONS.—The second International Conference on Congenital Malformations sponsored by The National Foundation-March of Dimes will be held in New York City, July 15-19, 1963 at the Americana Hotel.

Scientists from nine nations will present reports of recent advances in the treatment of birth defects.

Speakers at the Conference will include leading geneticists, surgeons, biochemists, pediatricians, immunologists and epidemiologists. Its general chairman will be Dr. Frank L. Horsfall, president and director of Sloan-Kettering Institute for Cancer Research.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY.—The annual meeting of the American EEG Society will take place October 7-9, 1963, at the Jack Tar Hotel, San Francisco, Calif.

CORRECTION.—In the Case Report by Dr. John A. Sours (*Am. J. Psychiat.*, 119: 584, 1962) the last sentence should have read "30 mg. qd" instead of "30 mg. q.i.d."

VETERANS ADMINISTRATION HOSPITAL, COATESVILLE, PA.—The 6th Annual Institute, Psychiatry and Neurology, will be held Tuesday, Apr. 16, 1963. The general topic will be Research Design in Psychiatry.

BOOK REVIEWS

THERAPEUTIC COMMUNICATION. By *Jurgen Ruesch*. (New York : W. W. Norton, 1961, pp. 480. \$6.50.)

Anyone who has maintained even a nodding acquaintance with the psychiatric literature in communication during the past decade will expect that this eighth book by Jurgen Ruesch will, like the others, be historically erudite yet strikingly original, broadly integrative yet topically specific, and ingratiatingly suave yet pertinently challenging.

Piquant passages in point, telescoped but not twisted :

Historical Perspectives : "Three traditions are exemplified in many . . . psychiatric therapies. The Judeo-Christian tradition is upheld by psychoanalysts [who advocate] . . . purity of belief, exclusion of dissenters, adherence to an established methodology . . . dogmatic defense of the established theory [and] redemption of the morally guilty sinner by the Savior . . . The Greco-Roman influence led to the development of . . . men such as Kraepelin, Bleuler, Charcot and Janet [who] tried to derive laws which would do justice to nature-made order [since] man is in nature, subject to its laws, and . . . adaptation is the best solution.

Finally, we have the Anglo-Saxon influence with its belief that man triumphs over nature by daring, exploitation, resourcefulness and industrial production [as represented by] the group therapists, the child psychiatrists and the interaction therapists. It goes without saying that these three basic trends intermingle with one another and eventually will be amalgamated, but many of the controversies and the bitter feuds in psychiatry and psychoanalysis can be traced to these different value systems and views of nature which go deeper than the individual dares to think."

In the next section, Ruesch previews his own eclectic position as follows :

"Therapeutic communication is the get of four grandparents known as psychoanalysis, re-education, logical reasoning and authoritative suggestion. Not being concerned with purity of origin, loyalty to forefathers or other mythological aspects of art and science, the communication therapist is free to use any source to accomplish his ends. To understand the exchange of messages between people, he borrows from social psychology and cybernetics ; to appraise what goes on inside the

individual, he utilizes the psychoanalytic scheme ; to assess pathology and some of the therapeutic processes he draws heavily from clinical psychiatry, and to assess the cultural and social milieu he turns to the social scientist . . . In terms of experience . . . we have a cumulative body of knowledge which recounts the beneficial results of human communication over several thousand years."

Thereafter follows a fairly well-organized and searching re-examination of psychiatric phenomenology, diagnosis, prognosis and therapy in terms of interpersonal communication : non-analogic, verbal, and socio-cultural. Though Ruesch's writing is occasionally cavalier, his opinions sometimes rather dogmatically expressed, and his aphoristic conceptualizations now and then malapropos (e.g., p. 437, "mismanagement of the energy household") the text is on the whole remarkably clear, the clinical orientations sound and the therapeutic directives refreshingly pragmatic. This, then, is a book for the psychiatric connoisseur who, with old aromas in mind, likes to sample new wines in new bottles.

JULES H. MASSERMAN, M.D.,
Chicago, Ill.

EPILEPSY AND RELATED DISORDERS. By *William Gordon Lennox* with the collaboration of *Margaret A. Lennox*. Two Volumes. (Boston, Toronto : Little, Brown, 1960, pp. 1168, 22 tables, 7 plates, 203 figures. \$13.50.)

Dr. William Lennox began a career in epileptology shortly after phenobarbital replaced the bromides. His 38 years as a student of the disease were paralleled by increasingly frequent advancements in knowledge, more important perhaps being the demonstration of electrical rhythms in the brain by Hans Berger in 1929, the ensuing development of electrophysiological understanding of nervous tissue functioning, and the introduction in 1938 of phenytoin sodium (Dilantin), the first in a series of new and effective anti-convulsant drugs. To a science thus growing, Dr. Lennox and his daughter contributed over 200 papers. The two volumes reviewed here constitute a life collection of information and clinical experience on "the falling sickness." The chapters cover history, classification, clinical manifestations, febrile fits, childhood seizures, statistical studies, genetic and twin studies,

diagnosis, psychological and social concomitants, etiology, and clinical management. The authors tell us not to expect an atlas of electroencephalography, a handbook, or a functional anatomy of the brain. These data are supplied elsewhere by other writers. Instead these two volumes are, primarily, a monumental work representing the authors, their laboratory, and their co-workers. A more astringent style, suitable perhaps for the ideal textbook, would not have reflected Dr. Lennox as his colleagues knew him. This final effort is a scholarly, comprehensive study of the disease. The chapter on history-making is masterful. Something like it should be followed by all physicians who undertake to investigate convulsions; for, in the end, epilepsy is a clinical and not a laboratory diagnosis, and all too frequently poor therapy begins with poor history.

The editing is near-perfect. Indeed I can find only one error, and that of no substantial importance, *i.e.*, on page 589 "artificial parthenogenesis" is defined as the cessation of growth of embryos induced by chemical, thermal, electrical, and radiant stimuli. There are a 23-page book list and 41 pages of references (782 references in all). The index is complete.

THOMAS H. LEWIS, M.D.,
Bethesda, Md.

NEUROPHYSIOLOGY. By *Ruch, Patton, Woodbury, and Towe*. (Philadelphia & London : W. B. Saunders Co., 1961, pp. 521.)

The appearance of this volume, which is reprinted from *Medical Physiology and Biophysics* being the latest edition of Howell's *Textbook of Physiology* is symptomatic of the Renaissance in neurological thought. After the tremendous advances in the neurological disciplines at the end of the 19th century there was relative stagnation for a generation, until modern electronic methods provided a new impetus. Associated with this has been the electronic computer, which has provided an analogue to the nervous system, and information theory and cybernetics, which together have raised the hope that brain function may become comprehensible. As a result there has been a revival of interest in neurophysiology, and a demand for modern texts. This volume of 500 pages is offered to meet this demand. It is a comprehensive text which is suitable both for the beginner and the more advanced worker. Although it is assumed that the reader has a working knowledge of neuroanatomy and physical chemistry, the relevant portions of

these basic subjects are outlined so that the text is complete in itself. Because it has been reprinted from a larger text, the space devoted to various aspects of neurophysiology is not perfectly balanced, and there are some gaps, *e.g.*, the regulation of respiration.

It is, however, a satisfactory text of neurophysiology. It is a surprisingly thin volume to have 500 pages, for it has been printed on thin but opaque paper. There are numerous illustrations, mostly line drawings that are clearly reproduced. Where halftones are used a glazed paper is provided. References are provided at the end of each chapter and there is an adequate index.

This volume provides a suitable textbook for the serious student of neurophysiology. It is designed to give the medical practitioner a background for his clinical work, but stays well within physiological territory.

JOHN W. SCOTT, M.D.,
University of Toronto.

THE FACTS OF MENTAL HEALTH AND ILLNESS.
Third Edition. By *K. R. Stallworthy*.
(Christchurch, New Zealand : N. M. Peryer Limited, 1961, pp. 227.)

In the preface to the third edition the author states that the book is based upon a series of popular lectures given to lay audiences. The book is, therefore, intended for the layman. The author agrees that there is danger of oversimplification in a book of this sort, but he feels that he must take this risk. One is surprised to find in the preface the statement, "Any case histories quoted are fictitious; they could all very easily be true, but they have not actually happened within the experience of the author." It is, of course, a common practice to alter and distort many case reports in the scientific literature in order to prevent any identification. Perhaps for popular teaching it is just as well to use fictitious cases.

There are 14 chapters in the book. The first seven deal mainly with the discussion of the normal workings of the mind and the emotional aspects of life including sex. Chapter 7 discusses getting along with oneself and with others. Chapters 8 to 14 discuss treatment of minor and major breakdowns. The last three chapters deal with criminology, physical and mental illness and hospital care. The chapter, "Intelligence and Those Who Lack It," is one of the very best chapters in the book.

On the whole the author does an excellent job in giving us a book that can be recommended for popular reading.

K. M. B.

KLINISCHE PSYCHOPATHOLOGIE. By *Kurt Schneider*. 6th Ed. (Stuttgart: Georg Thieme Verlag, 1962, pp. xii + 170.)

The fifth edition of this remarkable book was reviewed here in Sept. 1960. It is gratifying to see the sixth edition ("improved") appearing already in 1962. This is the work of a psychiatrist whose stature still appears to be growing.

EUGEN KAHN, M.D.,
Houston, Texas.

EMOTIONAL FACTORS IN PULMONARY TUBERCULOSIS. By *David M. Kissen*. (London: Tavistock Publications, 1958, pp. 238. 35 s.)

The research of D. M. Kissen into the psychosomatic aspects of tuberculosis is a demonstration of the high level of objectivity, precision and usefulness which psychosomatic research can attain. Studying groups of examinees in a chest clinic, using a questionnaire and structured interview technique in which all data were recorded and tabulated before the medical examination differentiated the patients with active tuberculosis from the controls, he was able to clearly demonstrate and prove the importance of psychological factors in the etiology, course and tendency to relapse of this disease.

Kissen's long experience as a chest physician combined with careful experimental design and an expert use of statistical analysis, as well as his ability to observe and listen to his subjects, has enabled him to produce a book of outstanding merit. The clarity of the writing and the use of statistical and verbal summaries has made it both easy and stimulating to read. The careful review of the literature and an excellent 5-page synopsis of his research add to the book's value.

Highly and statistically significantly correlated to the presence of the disease, to poor response to treatment and to relapse, he has found what he terms "a break in a love link." This is a loss (or threatened loss) of an important personal relationship in a person "with an inordinate need for affection." It is impossible in a brief review to present the full depth and understanding which Kissen's observations, statistics and case histories bring to this finding. He proceeds from his research data to a practical discussion of the use of the new knowledge in the management of tuberculosis patients.

In summing, a book of marked importance to anyone interested in psychosomatic prob-

lems, in research methodology in this field or in tuberculosis.

LAWRENCE L. LESHAN, PH.D.,
New York, N. Y.

THE PERSON SYMBOL IN CLINICAL MEDICINE: A Correlation of Picture Drawing with Structural Lesions of the Brain. By *Robert Cohn, M.D.* (Springfield, Ill.: Charles C Thomas, 1960, pp. 196, 127 figures. \$10.00.)

This book contains a different approach to the figure drawing test usually employed by psychology and interpreted in terms of the individual's concept of his body image, his personality, and his preoccupations. These studies, in contrast, emerge from a research neurology laboratory, and deal with symbol formation and use as related to the functional organization of the brain. Patients (N=8000) were given meticulous clinical neurological examinations plus electroencephalograms and the draw-a-person test. Postmortem correlations and comparisons with "elite" intellectual persons were made. The author understands the human figure drawings as formal, graphic, acculturated symbols, dependent primarily on visual training and only secondarily on central schemata formulated by other sensory apparatus. The symbol may be a simple "token," or may contain isolated representational elements which modify the basic person symbol or which may have a signature quality. The development of the person-drawing is related most importantly to neurological maturation, and thus may be delayed or distorted. Asymmetrical drawings are associated with hemi-inattention and homonymous field defects. Serial drawings during recovery from structural lesions of the brain, or during progressive deterioration of clinical status, are especially useful. In a critique of earlier studies the author concludes "The entire picture, although in many instances a signature, appears to have little representational attributes that can be precisely correlated with the individual producer. When such correlations are assayed, uncontrolled speculation and vague opinion dominate the work."

Students of F. L. Goodenough (*Measurement of Intelligence by Drawings*, 1926) and K. Machover (*Personality Projection in the Drawing of the Human Figure*, 1952) will be interested in the perspective offered by this work. Neurologists will find in it a valuable tool. All clinicians will treasure the collection of well described cases.

THOMAS H. LEWIS, M.D.,
Bethesda, Md.

MIGRATION AND BELONGING. A STUDY OF MENTAL HEALTH AND PERSONAL ADJUSTMENT IN ISRAEL. By Abraham A. Weinberg, M.D. (The Hague, Netherlands : Martinus Nijhoff, 1961, pp. 402, incl. glossary pp. 14, bibliog. pp. 8, and appendices pp. 122.)

This is a valuable monograph which makes a contribution to our concepts of migration, mental health, adjustment, affiliation, and the function of psychosomatic symptoms.

The author describes a pilot study aimed at developing reliable comparative methods of sociopsychopathological research. Interrelations between mental health and personal adjustment of immigrants in Israel were investigated. The research was carried out among students of an Ulpan, an institution providing intensive Hebrew courses for immigrants.

The procedure consisted of compiling, computing, and discussing data obtained by a depth interview and a written questionnaire. Four main variables were assessed : mental health, general adjustment, psychomatic complaints, and at-home feeling in the Ulpan (equated with affiliation). Relations were computed between these main variables and a score of other variables. A remarkable finding was the frequent existence of a special form of heteroscedastic relation [a property of a scatterdiagram where the variability in the columns is not uniform], where the regression was flat or fairly flat in a good portion of its range, but then rose steeply towards one end. The steep end was more predictable.

This study achieves a clarification of the concept of personal adjustment, contributes significantly to an understanding of the predictability of adjustment, and formulates an operational theory of mental health and personal adjustment.

Mental health is defined as a state : positive mental health is the dynamic steady state of mind, concomitant with free, undisturbed, interpersonal and intrapersonal relations within a primary group of peers, and accordingly with inner security with attendant basic confidence, ensuring gratification of the needs of belonging and self-realization. It is characterized by adequate personal adjustment.

Personal adjustment is defined more as a process : "a psychodynamism for acquiring, preserving and recovering, i.e., regulating, mental health." Among other facets, active and passive forms are delineated.

The research brought into focus *the need for belonging* and its importance as a pre-condition for mental health.

A byproduct of the work is its clarification

of the needs of migrants, so that this can serve as a source for those concerned with their care and direction—a very vital area.

Dr. Weinberg brings to his task a broad knowledge of the pertinent world literature and presents his material in a thoughtful and well-organized form, which permits rapid scanning or thorough study.

JAMES A. KLEEMAN, M.D.,
New Haven, Conn.

PSYCHIATRIC SOCIAL WORK : A TRANSACTIONAL CASE BOOK. By Roy R. Grinker, Sr., Helen MacGregor, Kate Selan, Annette Klein, and Janet Kohrman. (New York : Basic Books, 1961, pp. 338. \$6.50.)

This book is based on an 8-year study in the outpatient clinic of the Division of Psychiatry at the Michael Reese Hospital and Medical Center. The object was to determine what really were the functions of the psychiatric social worker, with special reference to her role in psychotherapy. In Chapter 5, Critique of Psychotherapy and the Social Worker's Participation, psychotherapy is defined according to different points of view ; there is a discussion of who does psychotherapy ; who receives it ; its goals, methods and results. Following a discussion of research in psychotherapy the point of view of the authors is presented.

A seminar or panel consisting of several well trained and experienced psychiatric social workers, several of whom had been analyzed and all of whom had a good knowledge of psychodynamics, met once a week under the direction of Dr. John Spiegel for the first 2 years, and Dr. Roy Grinker, Sr., for the next 6 years. The psychotherapy conducted by the social workers was presented in detail to the seminar group and agreement was reached regarding next steps in treatment. The thinking of the therapists and the seminar group form a significant portion of the report in this book.

Following a section dealing with a Theoretical Framework for Social Work is a discussion of psychotherapy by the social worker under the headings, Intake Exploration, Information and Recommendations, Experiencing and Modifying Complementary Relationships, Complementary Relationships with illustrative extracts from cases.

The authors chose the transactional approach as best suiting the needs of the patients. It is difficult to describe this method to those unfamiliar with the literature on role theory and communication theory. The techniques are described in Chapter 13. It leans heavily

on a changing mutual system of communications between the two participants of the transaction. The communications are expressed verbally, non-verbally by gestures and expressions, and para-lingually.

In transactional treatment attention is focused on the patients' immediate problems, with the attempt to change the stereotyped patterns that have failed in the past, making use of the role theory.

According to the authors, in psychotherapy the therapist and patient have explicit and implicit roles. The explicit roles are conscious and observable. The patient and the therapist must accept these explicit roles—the patient recognizes that he is sick and wishes to be helped, and the therapist is trained and wishes to help. Each also has implicit or unconscious roles. All the transactions occur within the "current life situation." Each participant has an effect on the other whose response in turn feeds back on the first. The patient attempts to perpetuate his neurotic pattern as a stable role. The frustration of this wish by the therapist produces a feedback to the patient. Messages are received and distortions are corrected. The authors, stressing the importance of understanding dynamics according to the psychoanalytic model, are of the opinion that this is not adequate for understanding the immediate transactions operationally within a psychiatric interview.

The complementary relationship is supportive and lasts until little is added through the transaction; it is not an end in itself. When the decision is reached to continue with psychotherapy, the complementary relationship becomes modified and intensive efforts are made to deal with the implicit roles of the patient. The therapist helps the patient to see explicitly what his implicit roles are. The section on Modifying Complementary Relationships deals largely with the detailed therapy of a young non-psychotic female patient. Her therapy and the discussion by the group cover a major portion of the book. The reader is carried along with the therapy step by step and thus becomes familiar with the transactions between therapist and patient as the implicit roles of each are revealed. The discussion of the defensive mechanisms used by the patient to avoid recognizing her implicit roles, especially the need to regress to a dependency situation, are clearly described.

The authors believe that well trained psychiatric social workers are capable of treating the patient as the primary therapists, and one must assume that they refer to the conditions as they exist in Michael Reese Hospital. We

may assume also that the excellent supervision they were able to offer helped to improve the quality of the psychotherapy.

Other aspects of the functions of the psychiatric social worker are discussed in Chapter 11. These include orienting the patient to the services at Michael Reese Psychiatric Department, services available in the community, contact with agencies and schools, and the contacts with the families of patients. History taking is one of her important functions. She also works with patients who are not motivated for therapy, or those who cannot benefit without radical changes being made in the home. These changes are apparently assigned to other social agencies. She works with the delays the patients must accept before they can begin their psychotherapy.

The goals of therapy are difficult to set. The plan must be flexible and changes made as they are indicated. Through the transaction the therapist helps the patient to have a better understanding of the reality he must meet in the group he will live with. He must regain the equilibrium he had before he became ill and understand how he became ill. The authors feel that social workers tend to give too much reassurance in therapy, the result of their working with anxiety in a supportive way in their social work services. Young psychiatrists often permit and encourage excessive quantities of anxiety which can throw the transaction out of equilibrium. One must locate the optimum amount of anxiety that facilitates mental work recall and understanding.

There is a comparison of the transactional approach with classical psychoanalysis, and it is not surprising that there are great differences. Several references are made in the discussion to the prolonged therapy case to differences between the psychotherapy by the therapist trained to do psychoanalytic therapy and the transactional approach which is a more appropriate comparison. Ever since psychoanalysis emerged as a therapy efforts have been made to modify the time consuming and expensive techniques. Anna Freud told me of efforts Freud made to do this, but each time he was impressed with the fact that the modifications interfered with the results obtained. Since 1931 I have attempted to apply what I had learned from child analysis to working with children in psychotherapy, and so have many of my colleagues. I agree wholeheartedly with the authors that in seeing the patient once a week the therapy must be vastly different than if they are seen in the classical methods of psychoanalysis. Patients when seen once a week in psychoanalytic therapy are not

allowed to regress to the same degree, though some do despite all precautions, and a few remain dependent much longer than we wish. This may be due to our errors, but is often due to ego weakness that defies attempts at separation. We attempt to avoid the development of a transference neurosis. Interpretations of unconscious material are not made except in rare instances when the meaning has become clear. Dreams are used for the help they give in understanding the implicit roles of the patient, but there is no interpretation of deep basic conflicts that may be apparent to the therapist. If early memories are stirred up and can be understood, they are related to the current and at times past conflict.

The differences as I see them between the so-called psychoanalytic therapy and the transactional approach are that the latter is more active, and interpretation of preconscious material begins earlier. More anxiety is stirred up, and attempts are made to prevent its becoming excessive. There is a closer bond, or a more personal one between the therapist and patient, and more feedback of communications. Apparently there is a greater tendency also to refer more frankly to the therapist's implicit roles, and therefore more discussion of counter-transferences. There is thus a greater sharing of emotional reactions. The transactional approach keeps the therapist more keenly aware of the combination of explicit messages and different opposite implicit messages. He is thus able to recognize "double binds" (Bateson) in which the patient has found himself by virtue of these kinds of messages received in his relationships with others—primarily his parents.

References in this book to the literature on communication theory should be carefully read. If as the authors believe after their long clinical investigation, the transactional approach is superior to other psychotherapies, it is important that this method be carefully studied. As in the case of any new technique in psychotherapy, it must be thoroughly understood, objectively tested and evaluated before passing judgment.

Social work has long been dedicated to lessening unhappiness and suffering. It was the first of the disciplines, as many of us can personally testify, to reach out in large numbers to psychoanalysis for a knowledge of psychodynamics. Social workers were very close to their clients through their case work and had long been aware that they could not help those whose behavior they could not understand. Knowledge of unconscious factors in human behavior opened up new horizons,

and offered hope of eventually understanding what made these disturbed people suffer. Social workers proceeded to develop techniques of their own and made important contributions to the therapy and prevention of neurotic conflict and illness. It is good therefore that psychiatric social workers were given the opportunity in this research to demonstrate their skills as psychotherapists.

I am pleased to recommend this book as an important addition to the bibliography for social workers and the other disciplines engaged in the study and treatment of people in emotional conflict.

HYMAN S. LIPPMAN, M.D.,
St. Paul, Minn.

LEHRBUCH DER PSYCHIATRIE. By W. A. Gilarowski. Trans. by H. Lambert. (Berlin): VEB Verlag Volk und Gesundheit, 1961, pp. 540. DM 55.00.)

There has been an ever-increasing interest in psychiatry in the U.S.S.R., and the present volume is, perhaps, representative of many of its kind. The translation into German seems to be better than average. Although the translator, a psychiatrist, "edited" while translating (reducing the voluminous original to 540 pp.), the reader will receive an adequate impression of contemporary Russian psychiatry.

The Table of Contents gives the reader an impression of the differences between Russian and American psychiatric literature. The first part, comprising about one-fourth of the book, deals with "General Problems of Psychiatry"; the second part, "Special Problems of Psychiatry," contains the largest portion of the book. The non-Russian editor is quite candid about the Russian methods in psychiatry: Pavlov gave the initial stimulus to the Russian psychological species of "psychiatric theory." Preventive and pathogenetic therapy are the most important concerns of Russian psychiatry. Particularly characteristic "is the attention which the Russian psychiatrist devotes to the patient, his gentle and humane treatment" (*die sanfte und humane Art der Krankenbehandlung*). Needless to say, Russian psychiatry abounds in successes, and they are documented, step by step. On psychotherapy, however, there is but one page, most of which is devoted to work therapy (*Arbeitstherapie*), since "psychiatric phenomena will be suppressed and the healthy sides of the personality will be stimulated whenever the mentally ill are kept busy with work (*Arbeitseinsatz*)."

For the researcher, this volume represents also a valuable source of references to the Rus-

sian literature, mostly since World War II. The volume is richly illustrated, particularly with color plates of paintings by schizophrenic patients. As was to be expected, little attempt is made to classify the forms of mental illness; neuroses are a "bourgeois phenomenon," which the mentally ill in Russia apparently do not experience. However, while the "Pavlovian" brand of Russian psychiatry has been known in this country for some time, perhaps it is not quite as well known that most of the free countries of Europe (with the notable exception of England) are equally as devoid of dynamic psychiatry as is Russia. Visiting a number of European institutions and clinics, this reviewer found that most psychiatrists in Germany, Austria, and Switzerland are, perhaps, as well acquainted with and practice Pavlovian psychiatry as the Russians. It is in the Pavlovian method that this book aims to teach physicians, even though the interest in psychiatry as practised in the U. S. A. and Canada is lively and in high demand among Western psychiatrists.

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RECENT ADVANCES IN NEUROLOGY AND NEUROPSYCHIATRY. Edited by *Lord Brain*. 7th Ed. (London: J. and A. Churchill; Boston: Little, Brown, pp. 282.)

This is the seventh edition of a volume which has been appearing regularly since 1929, and which has been almost completely rewritten since the last edition in 1955. Previous volumes appeared under the joint editorship of Lord Brain and the late Dr. E. B. Strauss, who died last year.

The emphasis here is on neurology and on those aspects of psychiatry which overlap with it. Psychiatrists will find particular interest in the chapters which deal with "Consciousness and Unconsciousness" and with "The Cerebral Basis of Mind." The importance of the reticular system is fully discussed and Lord Brain emphasises that if the reticular formation is to be regarded as an "alerting system," this does not mean that it prepares the cortex to receive sensory impulses. However, the *piece de resistance* of the collection is undoubtedly the section on electroencephalography by Professor Denis Hill and Dr. Driver. As a comprehensive review of knowledge in the subject this must be quite unrivalled, and its bibliography is formidable. Sections on intracranial tumours and neuroradiology are also excellent, but that dealing with parkinsonism and its surgical treatment is disappoint-

ingly brief. In general, this is a book of tremendous value to all who are concerned with the nervous system, both in its neurological and psychiatric aspects.

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THE ART OF THE STONE AGE. By *Hans-Georg Bandi, Henri Breuil, et al.* (New York: Crown Publishers, 1961, pp. 249. \$5.95.)

This is an admirable volume in every way, beautifully produced, with numerous illustrations excellently reproduced in color, and a text written by the leading authorities on prehistoric art. The price is incredibly low for such a work, and is possible only because the work was produced in Europe.

For those interested in the evolution of the human mind and the emergence of man the art of prehistoric man is an indispensably valuable stock of source material.

The present volume by no means covers the whole world of prehistoric art, but only the rock art of the Old Stone Age, and only a limited portion of that, for the available material is now quite large. The aim of the book is to give the reader a glimpse of that art, but this modest aim is far exceeded by the performance of both the text and the well-chosen illustrations. The whole world is represented, in this highly praisable volume.

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MACROMOLECULAR SPECIFICITY AND BIOLOGICAL MEMORY. Edited by *Francis O. Schmitt*. (M.I.T. Press, 1962, pp. 119. \$3.00.)

This collection of lectures offers a fascinating insight into the future of neurophysiology. It whets the appetite for speculation about the function of the brain as a control system, and brings to light for many of us our weakness in the logical appreciation of control systems in general so necessary for a basic understanding of nervous system function.

To serve its purpose of being read easily and at least partially understood by a broad group of readers, which it does so very well, it must also of necessity lack the depth of detail, both experimentally and speculatively, that is sought by the interested participant in this field.

It must be hoped that a more complete volume in this area will be forthcoming to satisfy the desire that this volume has created.

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OFFICIAL NOTICES

ABSTRACT OF THE PRESIDENT'S MESSAGE TO CONGRESS ON MENTAL ILLNESS AND RETARDATION

FEBRUARY 5, 1963

Government at every level, private foundations and citizens must back a totally new approach to the problems of mental illness and retardation—an approach that will seek out the causes and eradicate them, that will strengthen the knowledge and the *manpower* to sustain the attack, that will improve programs and facilities serving the mentally ill and retarded. *Prediction* : If we launch this new approach, it will be possible in a decade or two to reduce the number of patients now under custodial care by 50% or more.

MENTAL ILLNESS

We will avoid throwing more money into the states to finance more custodial care. The prime emphasis in the new approach will be on community mental health centers which will have in common these essentials : diagnostic and evaluation services, emergency, outpatient, inpatient, consultative, and rehabilitation services, day and night care, foster home care, and mental health information and education services. Starting in fiscal '65 the Federal Government will finance 45%-75% of the construction cost. It would also finance up to 75% of the *initial* staffing cost and allow another \$4.2 million for the planning of them. Until these centers get fully underway, however, it will be necessary to continue to improve public mental hospital care and \$10 million is recommended for demonstration and pilot project grants to these hospitals. The manpower problem is, of course, basic to everything. It is proposed to expand professional manpower from the existing pool of 45,000 to 85,000 by 1980. Once established, we may anticipate that the comprehensive mental health centers will be financed in the same way as other medical and hospital costs. Long-range Federal

subsidies for operating costs are neither necessary nor desirable. The growth of health insurance coverage will play a vital part.

MENTAL RETARDATION

Mental retardation stems from many causes. Socio-economic-cultural factors play a major causative role. The only feasible program must not only aim at the specific causes and the control of mental retardation but seek solutions to the broader problems of our society with which mental retardation is so intimately related. Prevention should be given the highest priority.

Recommendations : (1) A new 5-year program of project grants to stimulate comprehensive maternity and child health care services and doubling of existing authorizations for Federal grants for maternal and child health and crippled children's services. (2) Improvement of educational opportunities, particularly in slum and distressed areas. (3) Grants to enable states to review needs and programs and for the construction of facilities for comprehensive treatment, training and care. (4) Legislation to increase output of teachers for handicapped children. (5) Expansion of vocational education and rehabilitation services. (6) Project grants to state institutions for mentally retarded. (7) Establishment of three (and eventually 10) new interdisciplinary centers for human development and training of scientific personnel. (8) New authority for the Children's Bureau to engage in research in maternal and child health and crippled children's services.

Note : The President will discuss the health manpower problem at greater length in a later message to the Congress.

Robert L. Robinson

UNCONSCIOUS MOTIVATION AND THE POLYGRAPH TEST

H. B. DEARMAN, M.D.,¹ AND B. M. SMITH, Ph.D.²

A young bank vice-president was referred to the senior author by his employer, the president of the bank, because a lie detector examiner had alleged that the man had stolen money from the bank. A complete audit of the books had revealed no losses, and the president, expressing great confidence in his employee's integrity, wanted to "get to the truth of the matter." In the course of giving the client a complete medical, psychiatric, neurological, and psychological examination, a number of psychological, ethical, and possibly legal issues were raised.

The use of polygraphs ("lie detectors") in research and in law enforcement situations is well known (7, 10) and need not be reviewed here, but our search of the literature has revealed a dearth of authoritative reports of their use in business operations. *Business Week* (2) describes the burgeoning of such services both by reputable detective agencies and by individuals. This article also raises questions as to the possible misuse of the technique by unethical "examiners" who are subject to no legal regulations (except in Massachusetts) and who may make claims far beyond the established limits of the procedure. The case reported here exemplifies the hazards of using a method that is not totally reliable even in the hands of the best trained personnel. The implication for the person who is a "false positive" are incalculable, but in the present case they could have cost him his job and could have made future employment difficult. In the case of suspected criminals, unwarranted sentences could be assessed. It was in view of the more extensive danger that this report is offered to a wider audience.

The most frequent uses of "lie detectors" in business are to screen job applicants and to examine employees periodically "to keep them honest." It was in a routine testing of employees that this client gave "positive evidence of lying" and was alleged to have stolen money.

The essential details of the case are here summarized:

The patient, a white, married, 27-year-old man was the only child of parents of average economic status. When he was 7, his parents were divorced ("because the father drank too much"), and he and his mother lived with her parents until he was 13 when the mother remarried. The boy and his stepfather did not get along very well, but he lived at home until he graduated, in the upper third of his class, from high school. He went to college primarily "to get away from home," flunked his first year, but settled down and earned his degree. In his second year of college he met the girl he was to marry 2½ years later. They have one child. He went to work for his present employer shortly after graduating from college and was rapidly promoted to vice-president and manager of a branch bank.

On the occasion of the "routine" polygraph test by the examiner from the bank's detective agency, the patient showed a "violent" reaction to the question, "Have you ever stolen any money from the bank or its customers?" And positive responses to other questions concerning the bank. He also showed a positive reaction to the supposedly neutral question, "Do you drink coffee?" The patient was very upset by his failure to "clear the polygraph" and admitted to some minor misuse of bank funds, such as including parking fees on his expense account. The polygraph test was administered again, and again he "failed to clear." The patient confessed to the polygraph examiner that maybe his worry about personal problems, which he discussed with the interrogator, accounted for the positive reaction, so a third polygraph test was made. Again the interpretation was that the patient was lying and had stolen money. A final polygraph test was done in an effort to pinpoint the amount of money involved. The machine indicated

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that he showed peak reactions at \$800 and at \$1100. The patient was thoroughly confused because he could not remember taking any such sums. However, since he had been convinced that he couldn't "fool the machine," he signed a confession that he had taken \$1000 and told how he must have done it. The books were audited, and it was discovered not only that he had not used the method that he had stated but that no shortage of that amount had occurred in his branch since he had been employed there.

As a result of this dilemma, the patient was referred for examination. In the course of the 7 hours of psychiatric examination (including a 2-hour sodium amytal interview) and subsequent psychotherapeutic interviews, the following relevant material emerged:

1. The patient had strongly ambivalent feelings towards his mother. She had divorced his father and 7 years later married a man with whom he did not "get along." In the interim the patient felt neglected by his mother and developed positive feelings for his grandparents. He also felt that some of his mother's behavior towards him was somewhat seductive.
2. The patient's wife was two years his senior, and she had previously been married and divorced. His wife was very similar to his mother in many respects.
3. His wife and his mother were both "customers of the bank."
4. He had been involved in financial affairs with his wife and his mother to the extent of approximately \$800 and \$1100 and about which he felt somewhat guilty.
5. In a number of instances he unconsciously identified wife with mother. His unconscious hostility for his mother was apparently the motivating force for a number of incidents (including wrecking her car and for which one of the sums mentioned above was involved).

It will be remembered that the question on the polygraph examination that evoked the most violent reaction was, "Have you ever stolen any money from the bank or its customers?" It seemed reasonable to assume that the patient was responding to the "customers" part of the question inasmuch as he identified his wife and mother as customers and inasmuch as he felt guilty about financial transactions that he had had with each of them.

In order to test this assumption, an independent polygraph examiner (a woman) was employed. She was given no background information prior to her examination of the patient. She was asked to give the exact questions used by the original interrogator and an additional set of five questions in which "bank," "customers of the bank," and "wife

and mother" were separated.

This interrogator's interpretation of her findings prior to learning the background of the case was that the patient was lying and that he was guilty of theft. A careful examination of the polygraph records shows, however, that only in those questions in which the word "customers" appeared did the patient consistently show emotional reactivity on the polygraph record. On the basis of this evidence, it was concluded that the assumption made above of the patient's identification of wife-mother-customers was responsible for his emotional reaction.

It is interesting to note, however, that at the time of the polygraph examination, even though this material was conscious, it still evoked autonomic responses. It is of further interest that the positive response accompanying a truthful "yes" to the question, "Do you drink coffee?" was apparently due to his mother's prohibition of coffee during the patient's childhood.

The psychiatric diagnosis made for this patient was "acute anxiety reaction" and "adult situational reaction."

The case presented above illustrates the major problems involved in the practical application of the polygraph technique to the detection of deception. In the first place, the concept of "truth" is not easily defined; nor is the concept of "lying" any easier to clarify. Perhaps "truth" must be thought of in relative terms.

In crime detection the usual and obvious assumption of the investigator is that the suspect either did or did not commit the alleged act and that deviations in the autonomic responses reflect conscious deviation in his verbal statements from the "truth," as the "truth" is conceived by the examiner. Laboratory and field studies have shown that this assumption is not always valid. There are many variables other than "intent to deceive" that can produce the observed results. Some of the major variables will be discussed briefly, and the adequately trained, ethical polygraph operator must be aware of and take into consideration these factors in the conduct of his examination and interpretation of his records.

There is evidence of constitutional (biological) variability in autonomic responsivity(8) "which may be at least partially an inherited characteristic." Other studies

have demonstrated correlations between autonomic sensitivity and personality types and between autonomic sensitivity and various physical and psychosomatic illnesses (9, 14). An anxiety reaction is, in one major aspect, a hyperactivity of the autonomic nervous system.

Psychological factors other than conscious deception causing deviant autonomic responses include such situations or stimuli that produce frustration, surprise, pain, shame, embarrassment, *etc.* Some of these stimuli (*e.g.*, startle and pain) are almost universal (though there are some exceptions), whereas others (frustration, shame and embarrassment) tend to be more idiosyncratic. The polygraph examiner may not, and the commercial operations usually do not, know enough about their clients to evaluate these idiosyncratic factors. This aspect is even more complex when the client is, himself, unconscious of the emotional quality of the stimuli.

Experiments in which polygraph recordings were taken during the administration of a word association test show that single words that have very personal (and often unconscious) meanings for the subject will produce deflections of the styli(5). Such an emotionally toned word embedded in a question could be responsible for a response that could be attributed to the question. Compound questions such as were used in the initial interrogation of this patient increase the possibility of misinterpretation of the record.

It has also been demonstrated(6) that learned emotional responses are retained in the autonomic system long after evidence from the voluntary system has dissipated.

The polygraph technique is a very useful research tool, but the courts are wise in their policy of not yet admitting evidence from such procedures. It is possible to get "false positives" and "false negatives." The possible harmful effects on an individual who happened to be a "false positive" cannot be calculated.

The moral and ethical problems related to the use of lie detection in business, and even in criminology, are much too complex to be dealt with in detail in this paper. It must be mentioned, however, that the standard procedure recommended by the pro-

ponents of this technique stresses that the subject be impressed with the idea that the machine "can't be beat." The patient in the present instance had been so convinced of this infallibility that he "confessed" even though he was not guilty and consciously did not consider himself guilty. Thus, the examiner in effect uses deception in his effort to detect deception.

Another ethical question touches the concept of "invasion of privacy." In our case the interrogator elicited private and personal information that was irrelevant to the sole purpose of the test, and his use of that information was ethically questionable. Supreme Court Justice Pierce Butler(3) made the following relevant comment :

It has always been recognized in this country, and it is well to remember, that few, if any, rights of the people guarded by fundamental law are of greater importance to their happiness and safety than the right to be exempt from all unauthorized arbitrary or unreasonable inquiries and disclosures in respect of their personal and private affairs.

As stated above, Massachusetts is the only state that has enacted legislation prohibiting the use of the polygraph examination as a condition of employment. The National Labor Relations Board (1961) prohibited the use of polygraph examinations to determine attitudes of prospective employees towards labor unions by a Washington, D. C. employer.

SUMMARY AND CONCLUSIONS

A case has been presented which illustrates some of the psychological, ethical, and possibly legal problems associated with the use of the polygraph examination (lie detector) in commercial establishments.

The polygraph technique only provides measures of various autonomic responses. The stimuli that elicit these responses, the intervening variables (constitutional predisposition, past learning, conscious and unconscious motivation, *etc.*) and the interpretations made of the resulting graphs are highly complex and are inferences made from more or less incomplete data. In any event, these instruments do not identify lying *per se*. The interpretation of the polygraph record is based on inferences of

varying levels of remoteness. Inference is subjective; hence, polygraph examiners can, and do, make different interpretations of the same record.

It is our conclusion that the application of the polygraph technique as a lie detector is fraught with too many variables and sources of error for it to be used as it is currently being used in business and industry. Its use in criminal investigations and in other situations involving the commonweal (such as screening employees for sensitive government positions) should be carefully and continually scrutinized, lest we find that George Orwell's 1984 is upon us.

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PSYCHIATRIC FINDINGS OF THE STIRLING COUNTY STUDY¹

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For the past 10 years the staff of the Stirling County Study has been investigating psychiatric epidemiology. We embarked on this study with the idea that an increased understanding of what kind of people develop what kind of disorders would probably lead both to better knowledge of the etiology of such conditions, and eventually to prevention. Since our focus was on the possible effects of the social environment, the research team included not only psychiatrists, but also anthropologists, sociologists, psychologists and statisticians.

Ever since 1955 when we presented some preliminary findings⁽¹⁾ we have continued the analysis of the data, struggling to assess the true meaning of the prevalence estimates, and trying out various ways of relating the mental health results to sociocultural findings that might lead to significant correlations. One major hypothesis has been that the state of social integration of the environment will affect the mental health of the people living in it. In order to assess this it was necessary to distinguish between different levels of integration from effective to ineffective or malfunctional. We looked for communities which would contrast quite sharply with each other in this respect in order to see if psychiatric disorder would be significantly greater where disintegration prevailed. Our criteria of disintegration included broken homes, few and weak asso-

ciations, inadequate leadership, few recreational activities, hostility and inadequate communication, as well as poverty, secularization and cultural confusion.

Methods. The study was made in a rural and small town county in one of the Atlantic provinces of Canada. The population of 20,000 is about half English and half Acadian French and is scattered through the county in small communities of a few hundred or less, with one town of 3000. A major means of data collection was a questionnaire survey of a probability sample of the adults of the county. A systematic sample of households was made, interviewing alternately the male or the female household head. This was supplemented by interviews with local physicians regarding all the individuals surveyed. In addition hospital records pertaining to county residents were collected both locally and from the nearest large metropolitan hospitals. The social scientists made extensive use of key informant interviews and participant observation as well as questionnaire schedules.

The psychiatric data obtained regarding each individual in the sample consisted in a review of the systems of the body for physical symptoms, and a series of questions about psychiatric symptoms. Much of this was derived from the Army Neuro-psychiatric Screening Adjunct, the Cornell Medical Index and other sources. The doctors interviewed were asked about the medical history and symptoms of each respondent, his psychological characteristics and social behavior.

For evaluating these data we used independent ratings by two or more psychiatrists who then prepared a joint evaluation of the person as to whether he did or did not show significant psychiatric symptoms, as to how much his functioning was impaired by such symptoms, as to what the symptoms were, and as to the confidence felt that he might be a psychiatric "case." With a few modifications it was possible to use the terminology of the *Diagnostic and Statistical Manual* (APA, 1952), but we did not try

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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to make diagnoses. Instead we employed the terms descriptively and recorded for each person as many different symptom patterns as he showed. With this method it was possible to achieve a high degree of agreement between as many as four psychiatrists on each of the required judgments.

A first task of the social scientists was to select communities showing low and high levels of social integration. This was done initially by interviewing knowledgeable local informants. These communities were then studied intensively by social scientists who usually lived in them. The social scientists also analyzed the survey data according to various sociocultural criteria which included occupational position, education, migration, extent of French or English cultural commitment, and religious involvement.

Psychiatric Findings. The first psychiatric findings we shall discuss are those for the whole county, where we surveyed 1010 household heads. The confidence as to whether or not the person is or has been suffering from psychiatric disorder is expressed in a 4-point scale where A means high confidence that he shows disorder, B probable but not as certain, C doubtful but suspicious, and D high confidence that he has *no* disorder. While we used the Manual scale for estimating impairment, the discussion here will be limited to the distinction between significant impairment (20% or more) and insignificant (Table 1).

TABLE 1
ABCD Ratings and Significant Impairment, 1010 Stirling County Household Heads

RATINGS	MEN	WOMEN	TOTAL
A%	21	40	31
B%	26	25	26
A+B%	47	65	57
C%	33	20	26
D%	20	15	17
	<u>100</u>	<u>100</u>	<u>100</u>
Percent with significant impairment	31	33	32

In the Total column of Table 1, one sees that 31% of the sample were evaluated as showing clear psychiatric disorder, while an additional 26% were in the B or "proba-

ble" group. Only 17% show no psychiatric disorder which is almost the same figure as was found in the Midtown Study in Manhattan(2). Approximately one third of the Stirling group are impaired to a significant degree. The columns for men and women give the women almost 20% more with clear psychiatric disorder than the men, though the significant impairment is very nearly identical.

Table 2 presents the kinds of psychiatric

TABLE 2
Percentage of Respondents Showing Various Symptom Patterns *

SYMPTOM CATEGORIES	MEN	WOMEN
Psychophysiologic	66%	71%
Psychoneurotic	44	64
Sociopathic	11	5
Mental deficiency	7	7
Personality disorder	7	6
Brain syndrome	4	2
Psychosis	1	2

* Since more than one symptom pattern can be assigned to an individual, the total of the columns exceeds 100%.

symptoms found in this community sample of people living at home. As one would expect, the great bulk are psychophysiologic or psychoneurotic. Principal sex differences are the extra 20% of women with psychoneurotic symptoms and the double amount of men showing sociopathic behavior.

The considerable excess of persons with psychophysiologic symptoms over those with A or B level psychiatric disorder is a function of our policy in counting this type of symptom. With survey methods we found it impossible to follow the Manual specifications for counting only those psychophysiologic reactions "in which emotional factors play a causative role." This means that we get a high proportion of psychophysiologic symptoms, but it does not mean that we overestimate psychiatric disorder. The corrective comes in the ratings of Table 1, for psychophysiologic symptoms alone are never rated higher than C or B.

Although these figures were not collected from patients under psychiatric treatment but from persons living at home, most of whom did not consider themselves in need of psychiatric treatment and had never had any, yet 55% reported symptoms

which we assessed as indicative of clear (A) or probable (B) psychiatric disorder, and 32% appeared to be significantly impaired. On the other hand, it is apparent from the symptom list that most of the disorders are not what is usually thought of as "mental illness" in any major sense but rather "neurotic" syndromes.

We tried to see if our questionnaire was giving us too many "cases" in several ways, one of which was a collaborative experiment with a general practitioner who initially felt quite sure that we were overestimating the amount of disorder(3). Without knowing any more of our findings than that we had examined a sample of his clientele, he undertook to prepare summary sketches of the adults of his village, noting both physical and psychiatric disorder. He reported the same percentage of people with psychiatric symptoms that we had found by our methods.

In order to make a practical assessment of our findings, we eventually devised a means of categorizing respondents according to apparent need for psychiatric attention. This takes into account both rating, impairment and the nature of the symptoms, including conditions that need attention for diagnostic and prognostic purposes, whether or not treatment is possible. Table 3 shows the proportions of our sample

in the various types of need. Types IV and V are the same as the C and D ratings respectively, while the first three types are ways of distinguishing the level of urgency among the A and B ratings.

From everything we have learned about the relationship between our findings and "reality," we believe that this Table is something of an underestimate of the need for psychiatric attention, but at least it provides a service-oriented assessment of the figures given in Tables 1 and 2. The Type I cases get medical if not psychiatric attention because the environment cannot tolerate them, but the proportion of Type II and Type III cases that can and do utilize psychiatric help varies with all sorts of not easily defined circumstances.

In sum, it appears that at least 20% of the general population has definite need for psychiatric help, while a larger percentage would presumably be assisted by either preventive or therapeutic measures. This corresponds in size with the Midtown group who have "serious" symptoms and varying degrees of impairment(23.4%)(2).

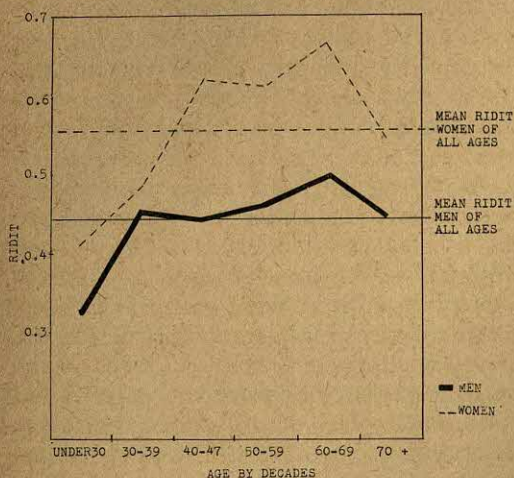
The next aspect is the difference found between various age groups, measured in decades. Instead of using percentages of A, B, C and D here we change to a score based on these percents which is called a ridit(4). This score is adjusted so that the overall county average is at the midpoint, and for any given sub-group account is taken of the proportion of members rated A, B, C or D. Used in this way it provides a rating of the risk that a member of the sub-group will show psychiatric disorder as compared to the county as a whole. The higher the ridit, the worse the mental health status or risk.

Graph 1 shows the variation in ridit with different decades, the solid line being men, the broken line women. The straight lines represent the ridit level for all men or all women, respectively. The graph shows that, from a low ridit at the youngest decade, there is a rather steep rise which is maintained or increased up to the 60 decade, after which there is a drop. We had no upper age limit. This drop is evidence that the method used for collecting and evaluating psychiatric data is not merely reflecting the accumulation of symptoms of all sorts

TABLE 3

TYPOLOGY OF NEED FOR PSYCHIATRIC ATTENTION, WHOLE COUNTY	
	%
Type I. Most abnormal (A rating, plus either psychosis/ brain syndrome or severe impairment)	3
Type II. Psychiatric disorder with significant impairment (A rating, plus significant impairment, but not Type I)	17
Type III. Probable psychiatric disorder (B rating, or A rating but not included in Types I or II)	37
Type IV. Doubtful (C rating)	26
Type V. Probably well (D rating)	17
Total	100

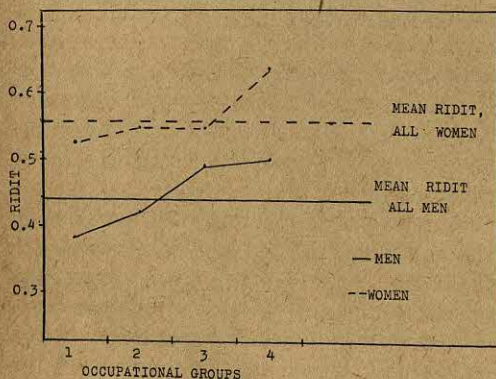
FIGURE 1



as the years roll by, for if this were the case the line would continue to rise. Our data do not reveal whether the drop is due to actual diminution of psychiatric disorder as age increases, or that only individuals without serious psychiatric disorder tend to survive past 70. Further studies are needed to settle this point.

Turning next to differences found in mental health status in relation to sociocultural features, we examined its variation with our nearest equivalent to social class, which we call occupational position. Graph 2

FIGURE 2



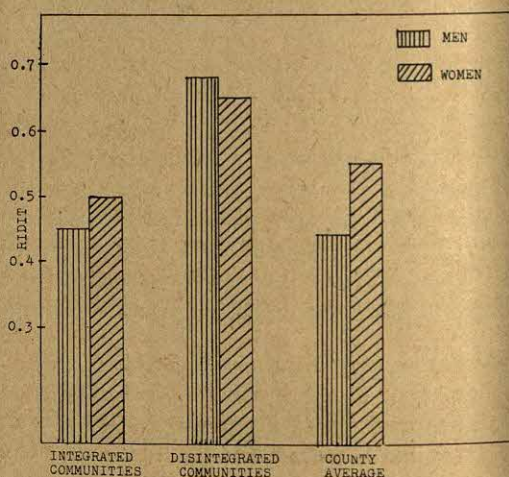
shows that with the highest occupational position, Group 1, there is the least risk to mental health and that risk increases as occupational position worsens. This is much like the findings of other studies, except that in this untreated population we found no

particular type of symptom to be commoner in lower class levels. Most categories are more prevalent (5). One can see a difference between men and women as to which shift in class level seems to make the most difference to mental health status.

Without going into detail, it can be said that the effect of education on mental health status parallels closely that of occupational position, while we did not find any significant differences associated with migration, ethnic identity, or religious involvement across the county. Moreover, when we examined the effect of occupational position in our largest town (3000), the clear linear relationship between class and mental health such as we had found for the county did not obtain.

Considering next the effect of social integration, Graph 3 shows the contrasts be-

FIGURE 3

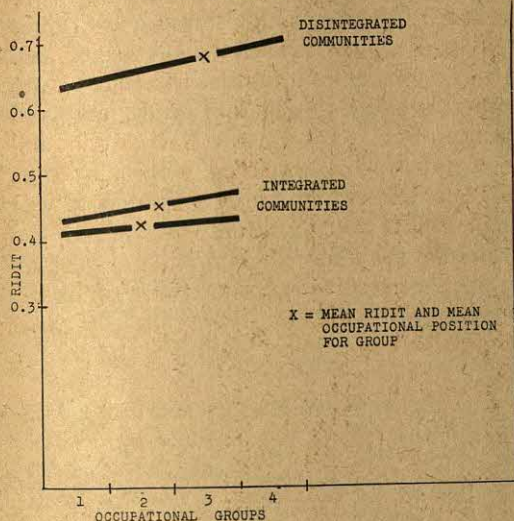


tween persons in integrated and disintegrated communities as compared to the county average. The striking increase in psychiatric risk in the disintegrated communities as compared to either the whole county or the integrated communities is accompanied by a shift in the sex ratio, men in disintegrated communities having a slightly greater risk of developing psychiatric disorder than women.

The question that naturally follows from these two graphs is, "Is it an accumulation of low social class representatives in the disintegrated communities that raises the risk there?" We can say quite firmly, No, it is not as simple as that. Lower class people

in integrated communities are at much less risk than upper class people in disintegrated communities. Graph 4 demonstrates this for

FIGURE 4



the men, for one can see that there is much less difference in risk between highest and lowest occupational groups within a community than there is between integrated and disintegrated communities for any given occupational position. It is the same for the women—no significant difference in rit within a community, but a striking difference between integrated and disintegrated communities.

What do we think is the answer? We believe that it is not any single factor, but that the net effect of all the sociocultural factors mentioned at the beginning creates a social environment which can be characterized as either integrated or disintegrated and which makes the difference in the level of risk of psychiatric disorder for the people who live there. In a rural county these different types of environment are separated geographically so that it is possible to see the contrasts. People tend to live in only one kind of environment, so one has for research purposes something that approximates "pure cultures" for comparison.

We have limited the discussion to the polar types, where either the upper or the lower limits of most of the various sociocultural factors tend to converge. Much commoner are the intermediate communities where there is a mixture of factors, lead-

ing to a mixed effect of the environment on its inhabitants and to intermediate levels of psychiatric risk. In Stirling County the best integrated communities were only a little better off than the average, whereas the disintegrated were much worse off than average.

We found such a mixture, also, in the town of Bristol, where our experience had much in common with that of Clausen and Kohn(6) in Hagerstown when they tried to relate hospitalized schizophrenics to some sort of social stratification without success. When we applied to the town of 3000 the social indicators (occupational position and education) which had shown a linear relationship to mental health status in the county, the result was merely random variation. Similarly, when Clausen and Kohn analyzed their schizophrenics for social class indicators, this did not produce the clear relationships that have been reported in very much larger cities like New Haven(5) and New York(2).

To be sure, there are many differences besides the size of the town among these various studies. Thus the New Haven investigators studied the whole range of psychiatric disorder that was under treatment, while the New York group had aims similar to those of the Stirling County study. Our experience, however, both in the very small homogeneous communities and in the one town of 3000 leads us to feel that size of population has an important bearing on the impact of integrative or disintegrative sociocultural forces upon individuals.

In the town we went one step further and, by rough sociometric methods, determined the groups of social associates of the respondents. The results suggest that there is less risk of psychiatric disorder for a person who is a firm member of a local, well-integrated group than for one of a group of non-conformists. While our numbers are too small for this finding to have statistical significance, it is congruent with the differences between integrated and disintegrated communities, and provides a hint for further lines of enquiry.

CONCLUSIONS

1. As in Manhattan the prevalence of psychiatric symptoms in the general popu-

lation of this rural area is higher than one might expect, with only 17% of adults free of all symptoms of psychiatric significance. About a third of the population shows significant impairment from psychiatric disorder, while twenty-plus percent stand in need of some sort of psychiatric attention.

2. The amount of disorder differs with the biologic variables of age and sex. Except in the disintegrated communities, women tend to show more psychiatric disorder than men though the proportion with significant impairment is approximately the same. Older people tend to show more than younger people until they reach 70 years or so.

3. Considering the 1010 county survey respondents as a whole, our indicator of social class showed what has been found in other studies, namely that better mental health is associated with higher social class. This relationship could not be demonstrated, however, in the largest town in the county.

4. Intensive studies of communities that are polar with respect to level of social integration showed a far stronger association of better mental health with higher level of integration than with higher social class within these communities.

5. It is not poverty or limited education or lower class status, *per se*, that makes the difference to mental health, but rather a whole group of factors that tend to be associated with these and that create a social en-

vironment that lacks features that are vitally important to mental health. To improve mental health, economic resources must be mobilized up to a point, education must be provided up to a point, but this will not be enough unless these factors bring with them the other environmental forces which add up to giving the individual the feeling that he is a worthwhile member of a worthwhile group.

Something like this is probably the most important contribution of such endeavors as Hull House or the Peckham Experiment, which by various means served to re-integrate the social environment for many of their patrons.

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A LONG RANGE PLAN FOR MENTAL HEALTH SERVICES IN CALIFORNIA¹

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AND RALPH LITTLESTONE²

*The State Senate on May 19, 1961, in recommending increased salaries for treatment personnel in the Department of Mental Hygiene requested that the Department submit by January 1, 1962 a statement on its current program and a long-term plan for future developments.

The idea of long-term planning is not new. The Department has had a program committee for a number of years which continuously considered ways and means of improving the care, treatment, rehabilitation, staffing and treatment goals of the Department in line with increasing needs of the state. Previous directors of the Department have discussed this matter. The present director, upon assuming office in 1959, immediately suggested the preparation of a "white paper" on the subject, "Mission, Responsibilities, Goals and Program of the Department of Mental Hygiene." The narrative introductions to budget requests in the past three years have referred to the need for more community services, pre- and post-hospital services, and a speeding up of current institutions to handle increased admissions.

The following developments made it appropriate to present a detailed study at this time.

1. The state's population is increasing by approximately one-half million a year, 200,000 of whom are new-born children in the state and about 300,000, both adults and children, moving into the state from other parts of the country. The result of this population increase is felt throughout the state in terms of many misplaced individuals who have to be absorbed, the constant demand for enormous increases in various facilities, particularly roads, water, hospitals, school rooms, recreation facilities, etc.

It is hard to appreciate the job of providing for the formation of a new city of several hundred thousand each year. The community is changing, as land devoted to citrus in many places is being used for housing; rural areas become suburban; problems related to urbanization are increasing.

2. Another event of marked significance was the release of the report of the Joint Commission on Mental Illness and Health. The Department has agreed with most of the recommendations of the Joint Commission, particularly with regard to the importance of public education and information, community services, training and recruitment of personnel and research. It has differed with the Joint Commission in terms of the size of the small hospital, deeming that even 1,000 is too large; it does not believe that the state hospital should be related only to chronic patients, or that the direct services to patients conducted by the state should be left in the hands of the state government but rather that an increasing amount of responsibility, treatment services and administrative authority should be placed in both public and local private hands. It does not believe that the federal government should pay an appreciable amount of the running expenses of state hospitals, but that federal funds should be increased for current types of expenditures, particularly research, training, demonstrations in hospitals under Title 5, and community services' funds under the State Mental Health Authority and construction. The impact of the report of the Joint Commission on California has been large and extremely useful and in general it endorses the findings and plans of leading authorities in the field of mental health and psychiatry and the leadership of the Department of Mental Hygiene.

3. Dramatic advances from a low relative position among the states in 1940 include more importantly: a) An increase

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² From the Dept. of Mental Hygiene, Calif.

in admissions from 8,000 in 1948 to 27,000 in 1961. Releases have kept up with admissions and in recent years have exceeded admissions. b) A reduction in number of beds for general mental patients from 303/100,000 population in 1950 to 208/100,000 for 1962-63. This is better than 30%. An absolute reduction in numbers of patients in hospitals has also been achieved in face of the rising population. c) The state operates 35,800 beds for general mental patients, 12,000 for retarded. The only other large state with comparable population, New York State, operates 88,000 for general mental patients and 26,000 for retarded. Yet each admits about the same number and releases about the same number. Personnel have increased chiefly on admission and acute treatment wards—altogether from 9,000 in 1950 to 21,000 in 1961; from 4.3 to 2.4 ratio of patients to employees. *Per diem* expenditures have risen from \$1.10 in 1940, to \$3.49 in 1951 and \$7.90 in 1961-62.

The state has spent about \$200 million in capital construction since the war. Programs in training and research, follow-up and after care have developed, but *serious deficits exist in 2/3 of our 580 wards which have still only decent custodial care and no treatment services. Salaries are below competitive level, administration is stretched too thinly.*

4. Increased pressures at this time force the department to request large sums for support or construction. These must be justified.

5. An isolated position by state service apart from other efforts in the state can no longer be continued and a good look at state responsibility for the whole state is needed, *i.e.*, leadership—not direct services.

6. Conflict between tax supported services and non-governmental services as a way of life demands reconciliation, and mental hygiene services in California offer a possibility of suitable compromise.

METHOD

A high level committee was created following legislative action and about \$40,000 was obtained from state and federal sources. All departmental staff units, standing committees, advisory committees and many professional and citizen groups were utilized

and 11 task forces of leading citizens were organized and produced a large volume of material. The committee decided on the following steps:

1. A statement should be submitted of general principles relative to the nature and the development of mental disorders and their treatment, which would act as guidelines to all parties in working out the material for the plan.

2. The plan should take into account the variety of needs and resources bearing on mental health, indicating the part to be played by various Federal, state, local and private agencies and individuals, and specifically spell out the Department of Mental Hygiene's role in carrying out the plan.

3. In addition to traditional responsibility for hospitalization of the mentally ill and retarded, *primary prevention of mental disorders* including the nature and extent of the responsibility of the Department for primary prevention was recognized. It was decided to approach these by using the zonal plan for classification of persons.³ This plan called for efforts in Zone 1 (prenatal and birth) which are in the nature of primary prevention; in Zone 2 (normal social milieu) towards the growth and development of healthy citizens as a positive mental health effort; efforts in Zone 3 (non-psychiatric trouble), the relief of external stresses as a deterrent to the development of mental disorders (primary prevention); and Zone 4, direct services (treatment and rehabilitation) for mentally ill and retarded.

General Propositions. Encouraged by the task forces three general propositions were accepted and dominate the plan. These are:

1. The responsibility of the treatment of mental patients shall be essentially the same as in other diseases. It shall rest first with the patient himself and his family and his local doctor, then with other non-governmental agencies and, as these are unable to fill the needs, it shall spread to municipal or county government, state and federal.

2. Responsibility for financing shall be by the individual assisted by private agencies and a variety of federal and state welfare benefits. Local government should

³ Daniel Blain: *Am. J. Psychiat.*, 113: 176, 1956.

be assisted by state funds through adequate subvention, and by federal funds in various ways.

3. Belief that the private sector of society can markedly increase its treatment services is based on the increasing and better distributed number of private licensed mental hospitals and nursing homes, increased units in voluntary hospitals, the anticipated increased participation of the medical profession, and an increased number of psychiatrists. Greater utilization of day treatment services will bring more local resources, part-time professional persons of all kinds, use of non-professional persons and more volunteers.

THE PLAN

Philosophy of the Plan. Current trends are pursued to a logical conclusion. These trends are factors bearing on the local treatment and administrative responsibility with multiple financing :

1. Treatment in the future will require a minimum of hospitalization as treatment techniques improve and the results of early local treatment are further demonstrated.

2. The state is already achieving a reduction of 1/3 of state hospital beds for general mental patients in the last 11 years from 1950 to 1961 and an absolute drop in beds of 1,000 each for the last 2 years. The drop in this curve has accelerated in the last 3 years and with the aid of increased personnel there seems no doubt that it can continue to drop. Thus both a relative and absolute reduction of beds is being accomplished.

3. The third major current trend is extension of the traditional hospital program to extramural services, greater dependence on physician practice, outpatient clinics, day hospitals, family care, and follow-up service. Hospitals are expanding their operations in the neighborhood and this year in a rural clinic additional staff has been added to visit homes for emergency evaluation and disposition.

4. McNeel's Guide ⁴ to treatment services is accepted as a guide : "Adequate treatment should be available (a) as early as possible : (b) as continuously as possible ;

(c) with as little dislocation as possible ; and (d) with as much social restoration as possible."

5. It is believed more economical and administratively more effective to plan treatment services on a local level. This is in accordance with the medical principle above.

General Principles. A set of principles was developed by the Committee as a brief statement of the framework in which mental disorders are developed and influenced toward recovery. These include the relationship of stress, basic goals, practical limitations, environmental implications, range and scope of the subject, importance of local availability both geographical and financial, problem identification, value of generic services, important basic services, timing and location of treatment, basic program elements, the need for goal-centered objectives, subject to measurement, economy and efficiency, and the importance of public responsibility.

Functions of Department of Mental Hygiene. Proper functions of the Department were developed as follows : As the major arm of the state government in this field, and as a member of the Health and Welfare Agency, under the Administrator of this agency and the Governor, and under authority and with resources furnished by the Legislature, this Department should continue to :

1. Provide leadership, consultation, and suitable assistance to the administration and other departments for their personnel and wards and the carrying out of their functions, as they may pertain to the field of mental health.

2. Work particularly closely with the Department of Public Health and Department of Social Welfare as co-members of the Health and Welfare Agency in matters pertaining to mental health needs of the state and mental health as parts of their major concern and programs.

3. Represent the state in efforts toward overall evaluation of the needs of the state as a whole and assist other responsible parties in efforts towards meeting these needs.

4. Represent the state to the Federal Government as the "Mental Health Authori-

⁴ Mental Hospitals, 9 : 27, 1958.

ty" and share in the policy determination on use of federal moneys in other departments as they apply to mental health institutions or mentally ill people.

5. Furnish consultation, organizational and developmental skills as requested to local government and private agencies in their operations and in the development of new services.

6. Work with citizens groups, professional and service organizations, industry, labor, religion and education groups and others to further mutual understanding of the mentally ill and retarded and their needs, and the provision of prevention and treatment services, and avoidance of discrimination.

7. Assist local governmental units in giving effect to the State-Local (Short-Doyle) Mental Health Services and other appropriate subvention programs, and carry out the responsibilities of the department relating to program standards and fiscal control.

8. Encourage and assist appropriate agencies and professional persons to carry out activities useful in preventing the occurrence of mental disorders and retardation in the unborn and new born; and relief of those under excessive stress and in danger of mental breakdown; and in the mental health growth and development of the total population.

9. Operate direct treatment services (inpatient and outpatient), including the maintenance of patients in outside institutions, for mentally ill and retarded who cannot be cared for by private physicians and institutions and voluntary agencies, or by city, county or federal treatment services, within the limit of state resources, and in accordance with the necessity to share the load, and that treatment should be available early, continuously, near home and with social restoration.

10. Assist in the advancement of scientific knowledge and its application by a research program using state funds and attracting outside funds.

11. Assist in the development of manpower by programs of professional and inservice training both for the state services and for the state as a whole.

12. Cooperate and work with the Uni-

versity of California and the state colleges in all ways mutually helpful, especially in the operation of the neuropsychiatric institutes for training of undergraduate physicians and residents in psychiatry and in research.

13. Provide and maintain suitable housing and equipment for its own operations, and stimulate and assist efforts in construction by private agencies, architects, and local government by advice and consultation and whatever financial help may be authorized.

Essential Elements of the Plan. The general objective of the Department of Mental Hygiene may be stated simply : to improve the psychiatric care for all citizens of the State of California. This will be accomplished primarily by joining other responsible parties in a partnership program so that adequate treatment is available as early as possible, as continuously as possible, with as little dislocation as possible, and with as much social restoration as possible. The Department will do this by :

1. Maintaining its ability to keep up with demands of increasing pressures.

2. Efforts to shift the treatment program : first, as much as possible to the private sector of medical care; second, to local government in terms of administrative and operating responsibility.

3. It will share the responsibility that the cost of such treatment is available from multiple resources and that services for all persons will be developed under whatever appropriate responsible parties may exist in different parts of the state.

4. It is necessary to assume that other agencies will increase their share in providing direct services, with appropriate help. Under this plan the state will look forward to a reduction of direct services by the state government, to a minimal amount, to the end that all persons with mental illnesses shall be treated as every other medical condition may be treated. Direct treatment load, therefore, will continue to be reduced, slowly as now, but with increasing speed, and its current operation will shift its emphasis to demonstrations in the hospitals, outpatient clinics and day treatment centers. Action by state government chiefly through the Department of Mental Hygiene will be

characterized by close association between a number of departments of state government, primarily those related to the Health and Welfare Agency, and also the Departments of Education, Corrections and Youth Authority as they operate programs in the school systems for retarded, and for emotionally disturbed children, and for psychiatric conditions in state correctional facilities.

The State Government led by the Department of Mental Hygiene will assume broader responsibilities in terms of leadership, education and promotion to the end that all responsible parties throughout the state will exert a maximum influence toward broader and more adequate mental health coverage, including a strong emphasis on influencing conditions which may be proved to have a part in preventing the occurrence of any of the mental disorders including mental retardation. Accomplishment of the above program will be in four major phases, all of which have started and will emerge progressively as dominant as the program unfolds.

Phase 1. The improvement of current direct services in hospitals, clinics and day centers and follow-up services so that the increased admissions resulting from increased population shall be adequately handled. This means that these services must have improved level of service, up to at least 25% to be achieved in 5 years, or at the most in 7 or 8. This may be accomplished in two ways; 1. By reducing the total number of patients (2%) and thereby automatically achieving higher ratio of personnel; 2. By increased financial appropriations each year up to 3%.

Phase 2. The development of alternative services to state care. These will be helped and pushed by the state in every possible way including financial. These are: increase in private licensed hospitals and nursing homes (1/3 of all such beds in the nation are in California), psychiatric units in general hospitals, the greater use of non-governmental clinics and greater participation of the general medical profession in treatment of mental cases. Also the increase of psychiatric treatment and attention in all chronic disease hospitals, county institutions and non-medical institutions (such as

homes for the blind, deaf, aged and for children without homes), and a vast build-up in a system of foster home care, both medical and non-medical, as well as specific increases in the care of moderately severe retarded in the school system known in California as the Point Two System. As these develop long-term patients will be transferred.

Phase 3. This phase consists of the marked reduction of state operations in direct services and as a shift of treatment services and locations to local facilities is accomplished, long-term patients are not retained. This will be markedly accelerated after the initial build-up process of Phase 1.

The Mentally Retarded. The relative reduction in state hospital beds for the retarded will continue in the same fashion but will be carried out more slowly. It is likely that the state will be able to take care of its responsibilities without adding to its current 12,000 beds for the retarded though this is a low rate of hospitalization. However, as it is planned, these hospitals shall be restricted to specific hospital care and will not continue to be used for custodial and residential care for large numbers of retardates who have long ago received maximum benefit from the state institutions. Under other auspices, with state assistance, treatment centers should increase by at least ten 250 bed units, each surrounded by day services for 750. It is believed that a careful classification of cases will screen out those who are better treated elsewhere, such as new born, badly crippled, brain-damaged cases for whom nursing care is the major objective, and certain neurological cases. Ambulatory retarded over 21 years of age with good physical condition may often be well cared for elsewhere.

Financing. This is a critical issue because of the variation in relative power to pay for services by individuals, local, county, state, and federal resources. It is believed that individuals will markedly increase their ability to select private treatment and pay for it because of 1) the increase of insurance for mental patients which is making such rapid progress; 2) increases in community chests; 3) industrial clinics funds; 4) pension funds; 5) other operations carried out with voluntary contributions; and

6) increased eligibility for welfare funds of both county and state, and from federal sources as the Social Security Laws and Amendments up through 1959 are changed. These now exclude mental patients.

We see the State as it conducts less direct services for mental patients and retarded, continuing to assume the same relative financial load, with a minimum of 8½% of the General Fund, monies being transferred from Federal to state to county in general by special grants-in-aid and by the subvention principle. In California this is already laid down in the Short-Doyle Law which, we believe, will be changed within 12 months to allow for a broader coverage and an increase of state participation.

Phase 4. As the State reduces its opera-

tions in terms of direct care and treatment it will devote itself more and more to its program of training for the State as a whole, research, public information and education, consultation and community organization, standard setting, exerting strong leadership shared with other responsible parties. It will particularly push towards a strong and widespread effort by all appropriate groups toward healthy growth and development in the society, control of prenatal maldevelopment and birth trauma, and relief of excessive pressures and tensions which, unmet, may lead to the development of one of the mental disorders in a large number of people. This could become a method of mass primary prevention.

PSYCHIATRY IN INDIA : FAMILY APPROACH IN THE TREATMENT OF MENTAL DISORDERS ¹

W. A. KOHLMAYER, M.D., AND X. FERNANDES, D.P.M.²

India, with a population of over 400 million inhabitants, has only 15,000 psychiatric hospital beds. Taking the overcrowding into consideration the number of psychiatric patients in psychiatric hospitals is approximately 30,000. De(1) states that the Indian Ministry of Health has recently estimated that 1.5 million persons in India would require institutional treatment if facilities were available. However, this is only an estimate. No actual survey has been done and no accurate figures are available. De believes that a figure of 3.5 million mental patients would be more accurate. Comparative figures for U.S.A. are 185 million inhabitants, and 750,000 hospital beds for in-patients. There are many more psychiatric facilities in general hospitals and open hospitals for voluntary admissions and there is a great potential for help in psychiatric private practice. These types of facilities are only beginning in India, and no exact figures are available. It is obvious, however, that the total facilities are hopelessly inadequate for dealing with the mental health problems of the country. Further evidence is contained in the figures of organized members of the profession: over 12,000 in the A.P.A., as compared with less than 100 in the Indian Psychiatric Society.

In contemplating this vast discrepancy in facilities and personnel we must ask: Is the incidence of mental illness lower in India? And if not, what happens to the patients and where are they located? Studies of the epidemiology of mental disorders in various countries throughout the world indicate that the incidence is approximately the same regardless of race or cultural background. Mayer-Gross, *et al.* (2), writing on the chronic mental patients in India and England state: "The vastly different social and cultural background from which the two groups are drawn suggests that these factors are not of major importance in the causation or prevention of chronicity."

We have to assume that there are proportionately equal numbers of chronic mental patients in all countries but they are to be found in different locations. In the United States they make up the vast population of the back wards of mental hospitals. In India they are usually at large being cared for by the family. Lambo(3) has studied the chronic mental patient in Africa and comes to the conclusion: "It may be that institutionalization tends to produce severe chronicity in patients in all races and cultures." He reports that he found relatively few cases of severe regression among African mental patients. He explains this fact with the support which the mental patient receives from his cultural and family background. In India, the traditional joint family system has provided material and emotional support to mental patients throughout the ages and is continuing to do so, although there have been signs of decrease of the strength of the family system. Any method to solve the mental health problems of this country has to take into account the various aspects of this family system and to utilize them in the treatment of the patients.

The Joint Family System. In Western countries—and particularly in the U.S.A. with her more mobile population—the prevalent form of the family is the so-called nuclear family consisting only of parents and children up to the age when they can care for themselves and earn their own living. This has led to individualism and isolation. As a result, there has been increasing shift of the responsibility for the mental patients to social agencies and the State. Only recently there has been a trend toward more interest in the family and the social environment. A number of publications have appeared describing this development, e.g., Ackerman's *Psychodynamics of Family Life* (4) which gives an excellent review of the increased interest in the family influence in mental illness.

In contrast to the nuclear family of the

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

² Patuxent Institution, Jessup, Md.

west, the joint family system is still prevalent in India although it shows some signs of decay under the impact of modern industrialization and the increasing influence of western thinking. Devanandam and Thomas(5) state "We call that household a Joint Family, which has a greater generation depth (*i.e.*, three or more) than the nuclear family and the members of which are related to one another by property, income and mutual rights and obligations. The members may be related collaterally or lineally." Sometimes as many as five generations live in a joint family because of early marriage and procreation. Thus the lineal spread includes family members of all ages from infancy to senility. The collateral spread includes cousins up to the third degree and the term "cousin brother" indicates that this relationship has equal status with a direct relationship between brothers and sisters. The head of the family is always the oldest male however senile he may be. If he dies, his oldest brother takes over his rights and responsibilities. However, his direct descendants split off from the family at that point to form a new family group under his oldest son. This cuts down the excessive collateral spread in the family which otherwise would extend indefinitely. The families are held together by joint property, housing on the same compound, a joint system of keeping money and accounts into which all members put their earnings and from which necessary expenses are made for each member according to the decision of the head of the family council. The influence of the family on the life of different members is extremely dominant and questions like schooling, training for various trades and occupations, studies, choice of marriage partner, and the question of dowry are all decided by the family. Little initiative is left to the young family members, who are not expected to make decisions until relatively late in life. The women join the husband's family in marriage where they start with an inferior role in the new household and are often severely dominated by the older women. The closeness of living together and the excessive influence on the life of every family member has produced extreme interest in personal and even intimate spheres. Interpersonal

relations, which are a matter of extreme privacy in other cultures, are often a question of common interest and concern in these large families. For example, everyone will participate in the nuptial ceremonies of a young married couple, and in other intimate matters. If family members take ill it has been the traditional course of events that sometimes a few and sometimes many members of the family will accompany them to the magician, faith healer or doctor. If the patient has to be hospitalized, it is often difficult to ward off the influx of family members. While the patient is in the hospital they participate very actively in his care. The mentally sick are usually kept at home and cared for by the family for considerable periods of time during which the various healing procedures are performed according to superstition and primitive belief. The fact of mental illness is kept secret because of the stigma which it throws on the rest of the family. It will also put the patient at a disadvantage later on if the fact is known in the community that he has been mentally ill. It may cause difficulty in getting a job or in making suitable marriage arrangements. Keeping the mental patient at home often necessitates considerable expense in effort and time by some relatives. This is possible only because there are usually one or several family members either unemployed or able to take time from their routine work in order to help the relative who needs constant supervision and care.

Description of the Mental Health Centre. The Mental Health Centre is built on the campus of the Christian Medical College, Vellore, and consists of: administration building, two wards—one for 10 public and one for 8 private patients, treatment building, occupational therapy building and mess hall. The staff consists of 2 psychiatrists, 2 house surgeons, 1 psychologist, 1 social worker, 1 occupational therapist and 1 trained psychiatric nurse, with 4 general duty nurses and 5 attendants, and an office staff of 3. The psychologist, psychiatric nurse and social worker participate in the examination of the patients along with the doctors, taking anamnesis and mental status of patients in their own language. There are three prevalent languages: Tamil,

Telugu and Malayalam, as well as a number of languages from more distant provinces. This method of gathering information is necessary before each patient is presented to the senior psychiatrist for diagnosis and planning of treatment. All forms of modern psychiatric treatment are provided at the Health Centre. Electroshock, sub coma and coma insulin and drug therapy as well as psychotherapy and group therapy are provided according to the need of the case. The patients are located in open rooms and there is no restraint or restriction. They are provided with a room with adjacent bathroom and kitchen which forms a small living unit similar to that which they are used to in their own home. It has been established as a firm policy at the Centre that one or two members of the family have to stay with the patient throughout his treatment. Rarely has there been any difficulty in finding family members to provide this service. On the contrary it is often a problem to eliminate a large crowd of relatives who want to stay with the patient throughout his hospitalization. It is very helpful to the patient—particularly to those who come from small villages and have not previously stepped out of the boundaries of their own setting—to be surrounded by familiar persons, thus avoiding the frightening aspects of a sudden separation. The close participation of the relatives in the treatment of the patient provides an opportunity to give them a better understanding of the peculiarities of the individual case. Through spread of this knowledge into wider circles of the public, a general education in the matters of mental health is effected.

In a country like India, with its many sub-cultures and traditionally determined language groups and castes, the food habits of the people vary greatly. Therefore it would be impossible to provide food for all of them from a central hospital kitchen. It would be an additional cause of upset to the patients if they were forced to eat strange preparations of food. Therefore, the relatives are encouraged to set up their own household with the kitchen facilities provided by the Centre and to prepare their own meals. This, at the same time, lessens the cost of hospitalization for them.

The relatives take an active part in the

treatment of the patient. For example they bring the patient to the treatment room for EST and afterwards supervise him throughout the recovery period. They sit with the patient throughout the insulin treatment while the nurse is supervising the various stages. They provide the food after recovery. Thus they learn about the treatments and are able to overcome their superstitious beliefs about illness and treatment. The relatives also are encouraged to take part in group therapy which is conducted every day. There they learn about the problems of other cases and about the psychological aspects of the illness of their own patients. They are given valuable suggestions for the handling of the cases, learn to observe the early symptoms of the breakdown as well as the appropriate steps to counteract them.

In this setting the most disturbed psychiatric patients can be treated without difficulty. The responsibility for the patient is left with the family members who have been dealing with his disturbed behavior prior to his admission and are often quite skillful in handling him. With active psychiatric treatment most of the disturbances are brought under control within a few days. The relief of the pressure which the patient's disturbed behavior has exerted on the family members gives them an additional incentive for cooperation, and willingness to follow the advice regarding further treatment. When the patient is ready for discharge, again an abrupt change in his relationship to his environment is avoided and the same persons are around him through the period of recovery and rehabilitation in his home.

All patients and relatives are encouraged to remain in contact with the Centre after their discharge. Those who live close by are invited to return for follow-up interviews and continued treatment with medication or psychotherapy. Some of those from a distance will avail themselves of similar help by correspondence or are placed under the supervision of their family physician. However, with patients coming from as far away as several hundred miles from North India, Assam, Arabia and other places, a close follow-up is not always possible.

This system of utilizing the family in the care of the patient has the additional advantage of relieving the psychiatrically trained staff, particularly nurses and attendants, from routine duties. The nursing staff supervises the physical treatment and provides medications, observes the cases and is on hand to give advice to the relatives at all times. Thus the staff is relatively small considering the large number of patients treated.

Evaluation of the Program. The psychiatric department of the Medical College in Vellore was opened in August 1955 and the inpatient services in the present situation were opened on March 1st, 1957. Since this time there has been a steady increase in the number of patients. In 1956, 380 patients were examined and in 1960 this number had increased to 650. These figures demonstrate the great demand for psychiatric services, the increasing popularity of treatment in an open setting and the decrease in superstition and the fear of stigma.

During the 18 months from July 1959 to December 1960, 849 patients were examined at the Centre. Of these, 284 were treated as inpatients and 264 as outpatients, and 301 came only for consultation.

Of the patients treated, 417 came from a rural and 432 from an urban background; 275 were illiterate, 259 had elementary schooling, 191 high school education, and 124 college education. Compared with the average population the number of educated persons is much higher among our patients because they are more willing to avail themselves of western treatment.

Considering the age distribution, the striking feature is the preponderance of the younger age group from 20-30 (326) with 30-40 (202) following closely behind. Compared with the western countries there is almost an absence of the older groups. This is explained by the cultural attitude of veneration toward the older person. The families refuse to send their older relatives away for treatment, taking the gradual decline of their mental power, and consequent mental disturbance, as a natural course of life.

The distribution of diagnostic categories is of interest. The most frequent diagnosis

is schizophrenia with 305 patients (35.8%). Next is psychoneurosis with 266 patients (31.2%). This group represents a biased sample compared with the average population in India because the Mental Health Centre has the reputation of being a place primarily oriented towards psychotherapy. It draws persons with western education from the cities who come for psychotherapy.

Affective psychosis was represented with 129 (15.7%) patients and organic with 70 (8.1%). Mental deficiency with 39 (4.5%) patients and personality disorder with 32 (3.7%) are represented less than in the average patient population. Eight (1.0%) remained undiagnosed.

The sex distribution in the various diagnostic categories is interesting. Of the total number 60% are men and 40% are women. Among the schizophrenics 56% are male and 44% are female. The ratio is reversed among the affective psychoses to 47% male, 53% female. In all other groups we find a preponderance of males which is particularly striking in the psychoneuroses with 69% male and 31% female and in the personality disorders with 75% male and 25% female. Among the organic cases we found a somewhat smaller discrepancy—57% male to 43% female. In mental deficiency 64% male and 36% female. In all these figures a preponderance of male patients is evident. They come or are brought more readily for treatment, while families are disinclined to expend money or effort on women members.

The figures regarding duration of illness show approximately even numbers up to 1 year while the group of 1-5 years is bigger and the group over 5 years still bigger. Thus we see that the larger number of patients consists of chronic cases. This bears out the facts previously discussed that the patients are treated with other methods for prolonged periods or simply kept at home without treatment prior to coming for psychiatric care. Of the patients, 258 or 47% were treated previously in other places, and 290 (53%) received first treatment at this Centre. The figures indicate that there were slightly more first admissions than previously treated patients.

Data on the duration of treatment in the various diagnostic groups shows the largest

number was treated for periods under one month. If we add the figure for the second month we have included almost all patients. Only 44 of 548 patients treated—that is less than 10%—were treated for over two months and more. The results of treatment of the total group indicate that 100 or 18% recovered, 363 or 66% improved, 85 or 16% were unchanged and 301 or 35.5% were seen for diagnosis only.

The difficulties of follow-up were mentioned above. Of our 849 patients, 456 or 58% were followed. There was an increase in follow-up, particularly among the patients who benefited from treatment, while the figures for relapse remain approximately the same; 393 could not be reached by our follow-up. Of the 456 patients who were followed, 395 maintained their improvement through a follow-up period which extended 3 months beyond the date of discharge, while 61 relapsed.

COMMENTS

This statistical evaluation compares favorably with the results obtained in Western psychiatric clinics. It shows that a relatively

small psychiatrically trained staff can handle a large number of patients, even with a considerable percentage of excited and disturbed acutely psychotic patients. With the help of the family the patients can be brought under control rapidly, and an intensive follow-up is possible.

It is suggested by these results that this Mental Health Centre could be used as a prototype for the development of small psychiatric clinics attached to General Hospitals throughout India. Thus the necessity to build large mental hospitals, comparable to those in the West, could be avoided.

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PSYCHIATRIC RESIDENCY TRAINING FOR PUBLIC INSTITUTIONAL SERVICE¹

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In July 1959, the Illinois State Psychiatric Institute for Training and Research was officially opened. This paper outlines some of its somewhat unique functions in psychiatric education in the hope that they may be of general interest and applicability.

Background. Plans for the Institute had been developed for over two decades by a Council consisting of the successive heads of the Depts. of Psychiatry of each of the five medical schools in Chicago, and respective Directors of the Chicago Psychoanalytic Institute, the Illinois Psychopathic Institute, and the Psychiatric and Psychosomatic Institute of Michael Reese Hospital. The most recent personnel of this Council, appointed for 6-year terms by the Governor of Illinois, had been: C. Knight Aldrich U. of Chicago), Percival Bailey (IP), Benjamin Boshes (Northwestern U.), Francis Gerty (Chairman, U. of Illinois), H. H. Garner (Chicago Medical School), R. R. Grinker, Sr. (PPI), John Madden (Loyola U.) and G. Piers (CPI). Dr. Otto Bettag, then Director of the Illinois Department of Public Welfare, appointed Dr. L. Rudy as Superintendent of the Illinois State Psychiatric Institute (ISPI), with Dr. Percival Bailey as Director of Research. I accepted the post of Director of Education with the provisos (1) that my appointment would be approved by the Council, since the cooperation of its members was obviously essential and (2) that my part-time services would end when a properly qualified full-time director could be found to take over.³ As may be inferred from what follows, during the ensuing 27 months the position proved challenging and demanding, but the gratifying results obtained may attract others to similar investments of time and effort.

Organization and Liaison Relationships of the Institute. The 7 clinical floors of ISPI, totalling 412 beds, were distributed for individual supervision among the five medical schools and the PPI, reserving only one floor for the Dept. of Public Welfare (DPW). The cooperation of the various schools and institutes was insured by the following advantages:

1. Each was invited to nominate, as a member of its faculty, the full-time Chief and Assistant Chief of its ISPI service, whose salaries were paid by the State.

2. Each school could also designate from 1 to 4 part-time consultants, with stipends likewise paid by the State, to serve a total time of 12 hours a week in supervising ISPI residents, conducting seminars, etc.

3. Each school could, with the consent of the Council and the Superintendent, organize its own clinical and research services in any way it preferred, including the establishment of day or night hospital, group and family therapies, etc.

4. Each school could not only rotate residents from its own training program through ISPI for 6 months or more, but could also appoint two additional residents for a full initial year at a stipend of \$4200 paid by ISPI, after which these residents continued in their respective university programs.

5. The participation of the Chicago Psychoanalytic Institute was invited through the presence of its Director on the Council, the appointment of many of its graduates (including the Director of Education) to positions in the Institute, and by having its trainees serve as teaching consultants, especially in the outpatient department and in various state hospitals affiliated with the ISPI program.

Residency Training. A nucleus was provided by a 3-year program previously conducted by the Illinois Psychopathic Institute under the direction of Dr. Percival Bailey, which had enrolled only some 15 residents, mostly foreign graduates who would be re-

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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³ Dr. R. C. Drye assumed full-time duties in Oct. 1961.

quired to return to their own countries on expiration of their exchange-visitor visas. The new program, in order to justify the expenditure by the State of Illinois of about \$10,000 per year per resident, was to be designed not only to prepare trainees of high calibre for specialization in psychiatry, but to enroll them if possible for greatly needed services in Illinois public hospitals. To make this explicit and also to forestall possible criticism by economy-minded legislative committees, justifiably concerned with local problems, the Residency Training Brochure was headed by the following paragraph:

"This program will furnish didactic instruction, laboratory training and supervised experience designed to qualify the candidate for the professionally competent and socially responsible practice of psychiatry, and interest him in the dignity and satisfaction of the clinical, research, teaching and administrative careers available to him in the Illinois Department of Public Welfare and related institutions."

Another step, which mitigated covert misgivings in various quarters that the well-subsidized ISPI program might seriously compete with others at the five medical schools and the two Veterans Administration facilities in the Chicago area, was to require of each resident that he furnish at least a year of service in a State institution other than ISPI during his residency. This was true in each of the four types of appointment offered: 1. *Straight Residency*: First year of intensive basic instruction and two 6-month services at ISPI; *second year at a State hospital* with one day a week for lectures and outpatient services at ISPI; third year divided into 6 months of advanced outpatient therapy, day and night hospital experience, court consultations, etc., and the other 6 months in child psychiatry at the Institute of Juvenile Research—also a state institution. Stipends, \$4200, \$5200, and \$6000. 2. *Career Residency*: As above, with 2 additional years of supervised staff service at an assigned State hospital interspersed among the 3 years of formal training. Stipends from about \$7500 to \$9500. 3. *Child Psychiatry*: First year at ISPI, second divided between a State hospital and OPD

with ancillary forensic and other training at ISPI; third and fourth years at IJR as a Fellow in Child Psychiatry. Stipends, \$4200, \$5200, \$7500 and \$8000. 4. *General Practitioners Grant*: As above, with stipends for qualified candidates from the National Institute for Mental Health.

Plan of Instruction. First Year: It was manifest that if the residents were to remain interested in and qualified for this progression of responsibilities their first year of didactic training in psychiatry must be made fairly intensive without neglecting the concurrent development of their clinical skills. The latter was particularly emphasized by requiring their uninterrupted presence on the wards from 9:00 a.m. to 4:00 p.m. for individualized care of from 5 to 12 specially selected patients. Here their work was directed by the various chiefs and assistant chiefs of service and the faculty consultants (whose reports were turned in regularly to the Director of Education) and supplemented by ward meetings, therapeutic team seminars with psychologists, nurses, social workers, etc. However, this emphasis on clinical skill left ample time from 8:00 a.m. to 9:00 a.m. and from 4:40 p.m. to 5:30 p.m. for lectures and demonstrations by ISPI personnel (Directors of the Divisions of Social work, Nursing, Psychology, Activities Therapy, Music, etc.), faculty members of the various participating institutes and departments of psychiatry and lecturers from various Chicago universities in sociology, anthropology, linguistics and other fields of growing relevance to psychiatry. For those interested in academic schedule-building, Tables 1 to 5 outline the content, progression and timing of courses and their balance with clinical work during the first year. In principle, after a week of general orientation and an initial trimester of introductory instruction in basic techniques of examination, diagnosis and therapy, the essentials of psychiatry, neurology and their related disciplines were presented in lectures and seminars limited to one or two hours a day; the rest of the time was spent in well-supervised individual and group work with patients. This included specifically scheduled opportunities for admission and follow-up experiences in the outpatient department, where a patient could, if neces-

TABLE I
Orientation Period, With Free Time for Completing Living Arrangements and other Personal Matters

9:00 a.m.	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	Welcome and Introduction to ISPI Residency Director of Education	Introduction to Outpatient Dept. Director of OPD	Introduction to Psychology Services Director of Psychology	Introduction to Services at Institute for Juvenile Research Director of IJR and Staff	Ward Services
	10:30 a.m. ISPI Research: Director of Research	10:00 a.m. Nursing Services Director of Nursing	10:00 a.m. Occupational Therapy Director of Activity Therapy		
		11:00 a.m. Social Service Director of Social Service	11:00 a.m. Medical Records Record Librarian		
			11:30 a.m. Hospital Regulations Administrator		
			Individualized Transfer of Patients Clinical Supervisor		
12:00 N		Lunch			
1:00 p.m.	Orientation and Tour of ISPI Superintendent and Clinical Director	Introduction to Clinical Services Service Chiefs		Introduction to Services at Chicago State Hospital Superintendent and Staff	(Sunday 2-4 p.m. Graduation Ceremonies and welcoming party for new residents)

sary, be treated by a resident for as long as 3 years.

Second Year : Most residents are assigned to the nearby Chicago State Hospital as staff psychiatrists in charge of the active treatment wards of 50 or more adolescent and/or adult patients of both sexes and with a wide variety of neurologic and somatic illnesses and behavior disorders. Occasionally, residents are also assigned to Elgin State Hospital for special geriatric experience, or to Galesburg for an opportunity to participate in the intensive physiopharmacologic research at the Thudichum Laboratory. However, in all cases provisions were made for their continuous training as follows :

1. In addition to attendance at staff lec-

tures and seminars, each resident is provided with a minimum of 4 hours per week of individual supervision by visiting consultants appointed and paid by ISPI.

2. Residents are assigned to teach student nurses, aides and other hospital personnel.

3. All residents maintain their contacts with the central program by spending Tuesday of each week at ISPI, where their time is divided between advanced instruction in the behavioral sciences from 8:00 to 10:00 a.m.; lectures, seminars and demonstrations in child psychiatry from 10:00 a.m. to noon, and, in the afternoon, OPD treatment of new patients or those previously treated by the resident in the hospital, and finally, attendance at lectures presented generally at bi-monthly intervals by visiting authorities.

TABLE 2
First Year Schedule, First Trimester

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00 a.m.	History of Psychiatry	Clinical Seminars	Techniques of Examination	Psychiatric Syndromes	Preview of Psy-ward Work and psychiatric Therapy or O.D. Duty	
-9:00		Clinical Director and Director of Education				
Introduc- tory						
Courses by ISPI faculty						
9:00	Conferences with	Service Chiefs,	ward nurses, social workers, psychologists, therapeutic team personnel			
10:00	Ward Work	10:30-11:30	OPD or Ward	Ward Work	Ward Rounds	Ward Work and/-
	Supervision by	Literature	Duties		with Clinical Di-	or O.D. Duty
	Service Chiefs	Seminar	Supervision by	Supervision	rector	
	and Consultants		Director of OPD		10:00 PPI	
			and Consultants		11:00 N.U.	
					U. of Ill.	
		11:30-12:00				
		Meeting of all				
		Residents with				
		Director of				
		Education				
		11:00 every third				
		Tuesday Clinico-				
		pathologic Con-				
		ference, Director				
		of Research				
12:00 N			Lunch			
1:00 p.m.	Ward Work	Ward Work	OPD and Ward	Ward Work	Ward Rounds	O.D. Duty
			Duties		with Clinical Di-	through Sunday
					rector	
	Supervision	Supervision	Supervision	Supervision	1:00 Loyola	
					2:00 DPW and	
					Chgo. Med.	
					3:00 Ward Work	
					Supervision	
	3:30-5:00					
	Visiting					
	Lecturers					

Third Year : Thus prepared, half of the third year residents are given a 6-month assignment for specially supervised work with children and their families at the Institute for Juvenile Research, and then alternate with their fellows who had spent their time in outpatient work, municipal and family court, consultations, and reviews of basic and clinical neurology. Third year residents join their fellows at ISPI every Tuesday for continued contact with the faculty and final courses in ethology, ethnology, information, communications and systems theory, research design and evaluation, and various psychologic, psychoanalytic, philosophic and sociologic schools of thought contributory to psychiatry.

Individualization. The general program is made sufficiently flexible so that residents

with special qualifications and objectives could be given time for psychoanalytic training, attendance at university courses, or full-time assignment for 6 months or longer to laboratory or clinical research.

Results. These must remain presumptive until ISPI graduates have proved their competence in clinical service, teaching and research in Illinois and elsewhere, but the following interim data are significant: 1. Despite a nationwide shortage of candidates for psychiatric training, and without advertisement other than sending our brochure on request, ISPI had over 200 applicants in 1960-61 academic year, of which only those with high scholastic standings and personal qualifications were selected. 2. The number of physicians in residency training, most of whom are now graduates

TABLE 3
First Year Second Trimester, and Courses for State Hospital Physicians

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00 a.m.	8:00-9:00 Neuroanatomy	8:00-10:30 Biodynamic Psychiatry	8:00-9:00 Techniques of Therapy	8:00-9:00 Psychosomatic Diagnoses	8:00-9:00 Legal and Administrative Psychiatry	8:30-10:00 Neurologic Case Demonstration U. of Ill.
	9:00-10:00 Ward Conferences, Service Directors	10:30-11:30 Literature Seminar	9:00-10:00 Ward Conferences, Service Directors	9:00-10:00 Ward Conferences, Service Directors	9:00-10:00 Ward Conferences, Service Directors	10:00-12:00 Neurologic Rounds Cook County Hospital
	10:00 Ward Work and Supervision	11:30-12:00 Residents' Meeting Director of Education and Clinical Director	10:00 Ward Work and Supervision	10:00 Ward Work and Consultations		Ward Work as assigned by Service Chiefs
	10:00-12:00 Clinical Seminar St. Hosp. Phys.	11:00 every third Tuesday Clinico-Pathologic Conferences, Director of Research	10:45-12:00 Group Therapy		10:45-12:00 Group Therapy	
12:00 N			Lunch			
1:00 p.m.	Ward Work and Consultations	Ward Work and Consultations	Ward Work and OPD Supervision	Ward Work and Consultations	Ward Rounds with Clinical Director	O.D. Duty through Sunday
		3:00-4:00 Neuropathology St. Hosp. Phys.				
	4:00-5:00 Nursing Procedures Director of Nursing	4:00-5:00 ISPI Residents	4:00-5:00 Psychopharmacology	4:00-5:00 Clinical Psychology, Director of Psychology	4:00-5:00 Roententology Laboratories	

of American or Canadian schools, has increased from 14 to our maximum of 60. 3. Relationships between the residents and the ISPI staff have remained excellent and the evaluation reports of the consultants have been almost uniformly favorable.

Each of the current trainees has expressed a sincere desire to continue in full or part-time institutional service, teaching or research after the completion of his training, and most prefer to remain in Illinois.

State Hospital Staff Training Program. Nevertheless, from a political-economic standpoint, the residency program was open to a pointed reservation: a putative Legislative Subcommittee on Mental Health could be well aware that Illinois mental hospitals were in *immediate* need of trained psychiatrists and might reasonably enquire

why we should not engage ready-made specialists or train available hospital physicians instead of investing so much tax money training residents on their mere promise that they might later serve our State. During the second year the facilities of ISPI were therefore also mobilized to provide one full day per week of teaching and consultations and direct clinical service to 9 of the 13 State hospitals in Illinois. This was done as follows:

1. In order to provide continuity of relationship and mutual interest each of the participating medical schools and institutes at ISPI agreed to adopt one or more of the State hospitals as its special concern, and was thereafter jointly responsible with the Director of Education for the local training program in that institution.

TABLE 4
First Year : Third Trimester

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
a.m. 8:00 9:00	Personality Development IJR Staff	8:00-10:30 Integrative Psychotherapy	Neurologic Diagnoses	Neurophysiology	Institutional Therapy, Chicago State Hospital Staff	8:30-10:00 Neurological Case Demonstrations U. of Illinois
9:00 10:00	Ward Conferences, Service Director Ward Work and Supervision 10:45-12:00 Group Therapy	10:30-12:00 Literature Seminar Residents Meeting 11:00 Clinical Pathological Conf. 3rd. Tues.	Ward Conferences, Service Director Ward Work OPD 10:45-12:00 Group Therapy	Ward Conferences, Service Director Ward Work Supervision Clinical Psychology, Psychology Staff	Ward Conferences, Service Director Ward Rounds with Clinical Director 10:45-12:00 Group Therapy	10:00-12:00 Neurological Rounds Cook County Hospital Ward Work as assigned by Service Chiefs O.D. Duty through Sunday
1:00 p.m. 4:30 5:30	Ward Work and Supervision Social Science Techniques Director of Social Science	Ward Work and Supervision OPD Social Psychiatry University Sociologist	Ward Work and OPD		Neuropharmacology	

TABLE 5
First Year : Fourth Trimester

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
8:00 a.m. 9:00	Adolescent Personality Development IJR Staff	8:30-10:00 Dynamics of Therapy 10:45-12:00 Journal Club and Res. Mtg.	Psychopharmacology	Social Service	Activities Therapy Lectures and Demonstrations	8:30-10:00 Neurological Case Demonstrations
9:00	Ward Conferences, Service Director	11:00-3rd Tues. Clin. Path. Conf.	Ward Conferences, Service Director	Ward Conferences, Service Director	Ward Conferences, Service Director	10:00-12:00 Neurological Rounds Cook County Hospital
10:00	Ward Work and Supervision		Ward Work and Supervision or First Year OPD	Ward Work and Supervision	Ward Work and Supervision	8:30 Ward Work as assigned by Service Chiefs
12:00 N 1:00 p.m.	Ward Work and Supervision	1:00-2:00 2nd yr. Res. Group Therapy 2:00-4:00 3rd yr. Res. 1:00-4:30 Second Year OPD Follow-up	Lunch Ward Work and Supervision or First Year OPD 3:30 every 4th Wed. Research Div. Conf.	Ward Work and Supervision 1:30-4:00 Group Methods Lectures and Demonstrations	Ward Rounds 10-Reese 11-NU and Chgo. Med. 1-Stritch and U. of C. 2-Inst. Serv. and U. of Ill.	O.D. Duty
4:00	Group Therapy OPD Therapy	Neurobiology				

2. The Chief and Assistant Chief of the ISPI service of the sponsoring school formed a team with two or more of its faculty consultants (including psychologists, social workers, nursing supervisors, *etc.*), each of whom then arranged to spend one full day a month at the designated State hospital. In this way, with only moderate demands on individual team members, each of the State hospitals could arrange one pre-set day a week for lectures, seminars, ward rounds and other activities that improved staff skills, raised standards throughout the institution, and thus directly benefited many of the 45,000 patients in Illinois mental hospitals. The Chicago Psychoanalytic Institute, which did not have a separate service at ISPI, also designated such a team under the direction of Dr. P. Seitz, and ably served the East Moline State Hospital, 320 miles away.

3. The entire program was coordinated by reports from both the visiting teams and hospitals, and by monthly meetings of the ISPI staff and all participating consultants with the Director of Education.

State Hospital Staff Instruction at ISPI. Finally, to complete the cycle of pedagogic exchange between ISPI and the outlying State hospitals, each of the latter sent one or more of its staff members every year for a month or more at the Institute for didactic reviews and clinical experiences designed to emphasize the dynamic, comprehensive and efficacious therapy of institutional patients (*cf.* Table 3). These post-graduate trainees, in turn, kept the ISPI staff and residents apprised of the practicalities of institutional work and thus also helped in maintaining

realistic and pragmatic orientations. All of the participants, despite the demands on their time and energy, have expressed their appreciation of the benefits derived from such interchanges.

Discussion. As may be surmized, the programs here outlined did not spring parthenogenetically from the oracular foresight and infallible administrative skill on the part of the Director of Education; on the contrary, he could often have better anticipated predictably differing interests in a Council composed of heads of departments accustomed to complete autonomy, and the conflicting demands on the program made by the clinic and teaching staffs, the medical school consultants, the state hospitals, and the residents themselves—let alone ever-present budgetary considerations. However, since nearly all those concerned with the ISPI program were motivated by a sincere desire for its success, the gratifying results here described were eventually achieved.

SUMMARY

Since 1959, interrelated programs were evolved at the 7 medical schools and training centers in Chicago, and the Illinois State Psychiatric Institute with its affiliated teaching facilities which have: (1) motivated and prepared residents for service in State hospitals and clinics; and (2) utilized the Institute in the continuous teaching of state hospital physicians and allied personnel. The development, vicissitudes and relative success of these programs are summarized to indicate their general applicability.

PSYCHODYNAMIC DIAGNOSIS IN PSYCHIATRY

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The diagnosis of psychopathological conditions is usually of a descriptive nature, based mainly on symptomatology. Dynamic factors are generally considered in the diagnosis only if they refer to organic etiology, such as senile, toxic, climacteric, or traumatic conditions and pathological changes in the central nervous system, the metabolism, the endocrine system, *etc.* Although such a diagnosis is important for therapy and prognosis, it is incomplete because it disregards important psychological dynamics. Psychological factors are recognized in the differential diagnosis of psychoneuroses, such as anxiety states, conversion hysterias, *etc.*, but even here the diagnosis is mainly based on symptomatology.

Even more inadequate are the prevalent methods for the diagnosis of the psychological dynamics in each patient. Sometimes adjectives are used to describe the patient, according to his overt behavior, as timid, aggressive, repressed, suspicious, restrained, apprehensive, *etc.* Sometimes mechanisms are taken for granted because they were observed on other patients before, and the present symptoms are interpreted as being based on insecurity, hostility, discouragement, guilt feelings, oedipus complexes or castration fears.

There are several methods available for diagnosing dynamic factors more objectively and not merely on the basis of superficial observations or haphazard guessing. The technique which I have developed, and which I hereby submit, is based on Alfred Adler's concepts.

Psychodynamic Differential Diagnosis. Neurosis, psychosis, and psychopathy are differentiated not only by their symptoms but by fundamental differences in their respective mechanics.

All psychopathological conditions are expressions of conflicts between the individual and his social obligations, since all human problems are essentially social in nature.

Psychopathology is characterized by mental, emotional, and characterological conditions which prevent the individual from functioning at an adequate social level and keep him from participating in harmony with others. The fundamental interpersonal conflicts are reflected in the intrapersonal conflict between the conscience, which recognizes social obligations, and the personal desires, which may stand in the way of cooperation. The conflict between the individual's private logic (private sense) and his conscience (common sense) may be resolved in three ways:

1. The patient may maintain his common sense consciously, but may look for alibis and excuses should he act contrary to his common sense. Thus, he uses his symptoms as alibis and yet maintains his good conscience. This is the characteristic mechanism of neurosis.

2. The conflict may be resolved by bringing the conscience in line with the demands of the private logic. This is accomplished through delusions and hallucinations which serve the patient as a means of escape from the logic of social living, his private logic acting as a substitute. This is a characteristic mechanism of psychosis and is usually associated with certain predisposing conditions. These are organic inferiority of the brain, exhaustion, excessive stress, disturbance of the CNS, of the metabolism, toxic or infectious conditions, *etc.* These can be considered as release mechanisms in crisis situations and are more and more recognized as favoring conditions, but not as causes, of psychosis.

3. The conflict between common sense and private sense may be avoided through neglect of the conscience as a result of inadequate training (excessive indulgence, suppression or neglect). This is a characteristic mechanism of the psychopathic personality.

The recognition of these dynamics permits a clearer differential diagnosis in certain borderline cases, such as between reactive depression and depressive psychosis,

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obsessive neurosis and schizophrenia, neurotic usage of alcohol and psychotic or psychopathic conditions. The most important feature of this dynamic differentiation seems to lie in the differential diagnosis between organ neurosis and organic disease. In all cases of neurosis and psychosomatic disorders a proper psychological diagnosis is imperative for treatment, management and counselling. The diagnosis of neurosis can no longer be based on the mere lack of evidence of organic pathology. The deciding factor must be the proper recognition of the purpose for which the symptom is used. If it serves as an alibi, then the case must be classed as a neurosis regardless of the presence and extent of organic pathology.

The technique I use permits a rather quick diagnosis of the psychodynamic factors of each case. We must recognize the dynamics of the present life situation in the light of the deeper dynamics of the whole personality. Our investigation is, consequently, directed towards a systematic examination of both aspects.

The Acute Situation. The examination starts with an inventory of the subjective symptoms and complaints of the patient. They represent his *subjective condition*. The next step is an investigation of the *objective life situation*. This consists of a careful examination of his participation at work, in social contacts, and in his relationship to the opposite sex, uncovering existing conflicts and dissatisfactions. The connection between the subjective condition and the objective situation is established by the question "What would you do if you were well?" The answer will reveal the dynamics of the existing psychopathology. It will indicate against what person or what situation the symptoms are directed. Caution must be used, however, to determine carefully whether the non-participation is justified objectively (by the conditions) or is justified only subjectively, and really out of proportion to the existing personal and social conditions.

The evaluation of the present situation is then substantiated by an examination of the patient's life situation at the time of the onset of the disturbance. Such examination reveals a "crisis situation" in which the

personality clashed with the then existing conditions and the patient retreated, withdrawing or limiting his participation.

The crisis situation cannot be understood in its dynamics without recognition of the patient's whole personality, *i.e.*, his life style. No real difficulty in itself causes retreat if the person is properly prepared for it. As long as an individual is confronted with living conditions which permit participation on the basis of established patterns and approaches, no conflicts will arise and no psychopathology will develop.

The Life Style. It is possible to determine the "life style" of a person objectively by analyzing his *family group*, the early group situation during the formative first years of his life and by interpreting the *early recollections*.

The family group may be recorded diagrammatically; the diagram shows the dynamic interrelationships of all members. The most important factor is the position of the patient in the sequence of children, whether he is the first born, second, middle, youngest or only child. Although the parents are the most important force, directing the mutual relationships between patient and all other members of the family, of greatest significance is the relationship to brothers and sisters. The interview will determine which one of the siblings was most different in character, interests and temperament. In most cases it is the next older or younger one. These differences indicate competition; in this competition the patient developed his ideas and concepts, and his manner of conduct contrasting to those of his rival. Further inquiries will establish possible favorites of father and mother, the personality of the parents, the nature of their relationship, the method they used in training each child, the alliances of siblings which is always expressed objectively in the similarity of traits and interests. These are the dynamic factors which influence the patient to develop a characteristic attitude towards society and the world.

These personal concepts and attitudes are revealed in the early recollections. The fact that one remembers from all the childhood experiences only certain impressions, makes these recollections highly significant. As all early recollections substantiate and

supplement each other, they reveal thereby the general outlook of a person, and indicate his subjective interpretation of life.

The proper evaluation of early recollections requires training and experience in soliciting the material and in considering each detail in its full dynamic implication. The psychiatrist trained in this method is capable of making an objective diagnosis of the patient's life style on the basis of family group and early recollections.

The psychological examination as outlined can be accomplished in one or two interviews. It provides an objective basis for the evaluation of the problems and the personality of the patient. During psychotherapy other pertinent material may appear, clarifying the first diagnostic impression. But this technique provides information about the most essential psychological aspects and may protect the psychiatrist from making unsound assumptions or neglecting relevant material.

I report one short case to demonstrate the technique :

Subjective condition. The outstanding symptoms are pains in the abdomen, constipation, diagnosed as spastic colitis. Patient was examined in several hospitals and by many physicians. State of depression has occurred several times. He is in a state of anxiety, worries a great deal, has experienced several incidents of a "nervous breakdown" where he could not sleep, could not eat, felt weak and had to stay in bed. All objective findings were negative, but once an appendectomy was performed without any improvement in his condition. He has felt sick for the last 20 years.

Objective situation. At work he cannot work effectively, is constantly on the defensive against being called upon or criticised, cannot accept more responsible positions offered to him, has to lay off several times when he gets pains or feels sick.

Socially. Has a few friends but hardly sees people ; is distant to people, suspicious when he meets new people, wants to be sure first.

Sexual and marital relationship. His wife has been sick almost since they were married. Very tense situation. He feels the victim. She is perfectionist, demanding and criticizing him. Complains constantly.

Question. What would be different ? He would have proven at his company that he is the best professional worker. His nervous condition has shattered all his hopes. Before

he got so nervous, 7 years ago, he blamed his wife for his failure. The attention and care which he needed prevented bigger and better jobs. Afterwards his pain kept him from accepting more responsibility. He would be more tolerant to his wife if he were well.

Crisis situation. Twenty years ago he had a mean boss who cursed him and laid him off despite hard effort. It was the first time in his life that he failed. He went home hiding his face. At that time the first symptoms started. An acute recurrence of severe pains in the abdomen, 7 years ago, when he was scolded at work. Five years ago a severe nervous breakdown, was unable to work for several months when his mother died without his having visited her. He blamed his wife who by her sickness prevented him from going.

Family group. He is the third of 9 children. Most different from him is the oldest brother, 3 years older. The brother was a bad student, flunked in school, slow thinker, dislikes work, does not take on responsibility, but takes life easy and is happy. Patient was a favorite of the mother who expected him to be the only one to extricate himself from poverty. He helped around the house and in the field where he was the leader of the older children. One sister, two years older, was more like him but soon accepted his leadership, too. The father was away in the war when patient was 10 years old, and he took on his place and responsibility. After the father returned, he accepted the patient as an equal. Patient picked on the oldest brother and made fun of the next younger one. All in the family accepted his superiority.

Earliest recollection. At 11, he was not allowed to go to high school, but went for himself to register. All other children were well dressed and with their parents. He was ashamed. When it came to making the application, he started to cry, but the principal spent some time in trying to console him.

At 9, the teacher put him in charge of the class while she left the room. He helped correct papers. Once she hit him on the hand : he felt innocent, cried for hours. The teacher felt sorry for him, apologized and tried to console him. Actually, he had been at fault by not following instructions.

At 5, patient had bitten the older brother, who was much stronger than he. He ran away, cried, and complained to his parents, who scolded the brother.

Evaluation. Patient wants to be the first but knows he cannot be. Tries to conceal his antagonism by feeling innocent and by suffering. Instead of admitting his rebellion he

blames others and circumstances for his "defeat."

Outcome. During psychotherapy he first changed his concept that he must be first or otherwise he would be lost. Then he realized his rebellion and antagonism and changed his attitude. He discovered the function of his pain as a means to escape humiliating situations. His stomach "spoke up" for him and permitted him to withdraw and to refuse participation. His relationships at work and at home changed. He became easy going, learned

"to take it" without resentment and without retreat. His pain subsided completely; he became happy, accepted a higher position which he had refused previously because he was afraid of failing there. The condition of his wife improved, too, since he no longer used it for excusing his own inadequacy, instead of pushing her down, and gaining his superiority on the grounds of her complete deficiency. Patient has been seen periodically for a check-up during the last three years, without relapse.

PSYCHIATRIC, COMMUNITY AND RACIAL INTEGRATION IN A GENERAL HOSPITAL¹

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In 1956, the Mercy-Douglass Hospital was given the task of instituting a major psychiatric department, developing a much closer liaison with the University of Pennsylvania School of Medicine, and becoming an integral part of the state and city program for mental health. In addition, since the hospital had been one of the outstanding Negro hospitals in the community, it faced the problem of integrating its staff racially by including more non-Negro professional workers at all levels.

The purpose of this paper is to describe some of the methods used, the problems encountered, and the results up to this time. In addition, we propose to present a preliminary report of studies now conducted, trying to determine how inter-racial attitudes have affected the professional staff and the treatment the patients receive. These several areas of interest will be discussed under the following general headings: 1. Community-hospital integration; 2. Integration within the hospital, racial and psychiatric; 3. Inter-racial aspects within the psychiatric department.

Community-Hospital Integration. Both the Douglass and Mercy Hospitals were established (in 1895 and 1907 respectively) because facilities for Negro patients and physicians were not adequate or open in Philadelphia(1). In 1948 these two institutions merged to form the Mercy-Douglass Hospital. In 1954, The General State Authority, an agency of the state government, built the present physical structure, which was then leased to the Mercy-Douglass Board on a long-term basis for a nominal sum. Up until this time, the professional staff and the Board had been predominantly Negro. Through the Board of Managers, active volunteer groups, community groups and outpatient services there had been a

long tradition of close cooperation between the hospital and the community. The hospital was primarily oriented toward servicing the local community.

As part of the agreement with the state in 1956, the hospital was asked to provide 100 beds as part of the city-state program for the care of the mentally ill, and to make a determined effort to recruit more non-Negro personnel for the staff at all levels. The second of these proposals was accepted with enthusiasm; there was considerable opposition on the part of the staff to the first proposal. The staff was reluctant to devote 100 of its 263 beds to psychiatry, and there was apprehension as to the effect of introducing that number of seriously ill psychiatric patients into a general hospital. Finally, with many misgivings, they agreed under the pressure of circumstances. A medical advisory committee, consisting of some of the senior members of the clinical and administrative staffs of the University of Pennsylvania School of Medicine, was created to assist the board and staff of the Mercy-Douglass Hospital.

In the "old" hospital there had been no provision for psychiatric patients. The hospital was unable to recruit on short notice the professional personnel necessary for staffing such a large service. A three-way agreement, involving the hospital, the state, and the University Department of Psychiatry, was negotiated. Under this agreement, the state provided financial support; the hospital provided 100 beds, nurses and attendant personnel, housekeeping and all ancillary professional and laboratory services; the Department of Psychiatry of the University provided all professional personnel except nurses.

From its inception, the psychiatric service was conceived of by the University Psychiatric Department as a major clinical resource for teaching and research. Medical students, student and graduate nurses, psychiatric residents, and students from related

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fields receive clinical instruction here. Medical students are assigned to the Medical Department of this hospital as part of their undergraduate course in physical diagnosis. Clinical research, carried out by members of the University Department and supported by various grants and awards, has been exceedingly active since before the first patient was admitted in 1956.

Also from the beginning, the hospital psychiatric service had as one of its basic aims the reduction of the isolation of the seriously ill psychiatric patient from the community. To implement this goal, one floor of the psychiatric unit is open. Patients may leave the hospital during the day or night to work in the community or attend classes. Whenever possible, community facilities for treatment and rehabilitation are used instead of setting up separate facilities for the patients. As examples of the latter, the nearby Community Recreation Center, a function of the city Department of Recreation, is used quite freely by the patients. This center contains athletic fields, a gymnasium, swimming-pool, library, and programs many activities which have become an integral part of the rehabilitation program of the psychiatric service. Meeting rooms in a nearby church are used for social activities by patients. Some of them work in local business establishments and serve as volunteers in local community projects. Psychiatric outpatient and home-visiting care are provided by the service to a limited extent for residents of the immediate area.

As part of the city-state mental health program, the Mercy-Douglass psychiatric service was designated one of four psychiatric receiving hospitals in Philadelphia. These hospitals admit the majority of their patients directly from the state psychiatric reception center, which is located in the city General Hospital. The state pays the cost of inpatient care above what the patient is able to pay. The city underwrites a major portion of the cost of outpatient care for these same patients following their discharge from the hospital. The same professional staff operates the inpatient service and the follow-up clinic, providing continuity of care for the patients. Under this arrangement, the psychiatric service of the

community hospital is an integral part of the state hospital system, of the city division of mental health, and the University's teaching and research activities.

Integration within the Hospital. Even before the agreement with the state in 1956, the Mercy-Douglass Hospital was admitting non-Negro patients from the community. The proportion of Negro to non-Negro patients continues to reflect the racial composition of the community served by the hospital. The medical and nursing staff of the "old" hospital was almost entirely Negro, as was the Board of Managers and the volunteer community groups. Since the change in policy effected in 1956, the nursing staff and the Board of Managers have become more racially mixed. As for the medical staff, the two new Departments of Research and Psychiatry consist almost entirely of non-Negro physicians, because there have been no applications by Negro physicians for appointments to either of these two departments. Non-professional workers at the hospital have also become more racially mixed since the change in policy. Racial integration within the hospital has proceeded smoothly; it has not been complicated by any obvious problems.

The integration of the psychiatric service with the general hospital has not proceeded as smoothly. For example, the house staffs of psychiatry and the rest of the hospital have remained quite separate. Several factors account for this split: The general house staff is provided room and board as part of their stipend, the psychiatric house staff is not; therefore the two groups do not live and eat together. The psychiatric house staff is composed largely of American citizens; the reverse is true of the general house staff. Thus, the cultural background and community identification of the two groups are quite different. The psychiatric house staff is selected by the University, the general house staff by the hospital; hence the two groups are not subject to the same administrative or professional authority. The psychiatric house staff is primarily oriented toward the University, the general house staff toward the hospital. Another factor working toward a division between the psychiatric service and the general hospital is that the psychiatric outpatient clinic and

all ward psychiatric consultations are handled by psychiatrists in the Department of Medicine and not by the Department of Psychiatry.

Efforts to combine the teaching programs of the hospital and the psychiatric service have not been pushed by either side, and as a result there is not a close liaison in this area. However, on the clinical side all females admitted to the psychiatric service are seen routinely by members of the Gynecology Department, and the Medical Department makes regular rounds on the psychiatric wards. There is active and close collaboration between the Department of Clinical Research and the psychiatric service.

The initial attitudes of the general medical staff toward having large numbers of seriously ill psychiatric patients in the general hospital have been modified considerably in the direction of more acceptance and understanding. This has come about not through a deliberate policy but through "living together." Psychiatric patients are accepted as workers and volunteers in other parts of the hospital. There is much less tendency to assume without investigation that psychiatric patients are responsible for "incidents" occurring about the hospital. Noisy patients have not been a problem despite the lack of sound-proofing; staff and patients from other divisions of the hospital frequently participate in the evening social activities held on the psychiatric floors, which are no longer considered "alien territory." In this manner they have become familiar with the operation and atmosphere of the psychiatric unit. As a result, in several instances when they needed psychiatric care subsequently, they have requested admission to our unit. Discharged psychiatric patients have later returned to the general OPD or the inpatient services when the need arose, because of their positive feelings for the hospital.

Inter-Racial Relations within the Psychiatric Department. No Negro physician or resident has been a member of the psychiatric staff for the reason that none has applied. Psychologists have not been racially mixed for the same reason. Of three social workers, one is Negro. Recreation workers have included members of both

groups; most have not been Negro. Both Negro and non-Negro nurses have served as chief psychiatric nurse; floor nurses have been divided about 2 to 1 in favor of Negroes. The great majority of attendants have been Negro. Patient admissions to the service have been 40% Negro, a higher percentage than similar socio-economic groups in the area served. According to the criteria used by Hollingshead and Redlich(2) just under 95% of all admissions may be placed in class IV.

Infrequently, patients express hostility and center their delusional content around racial difference. Three non-Negro patients have been removed against medical advice from the unit when their families learned that the patients were racially mixed. Interestingly, one of these three, following recovery at another hospital, returned to our psychiatric unit for employment and has been working here for more than three years. Many of the patients come from racially mixed neighborhoods. It is no new experience for them to be in fairly close contact with individuals of another race, although most have not lived in as close proximity as residence on a psychiatric ward requires.

Patients and staff usually deny that racial issues are a matter of concern or friction. However, there is considerable indirect evidence that race does affect attitudes. For example, in replacing the psychiatric nursing supervisor on one occasion the administration hinted that they were looking for a white nurse, feeling that she could exert authority more effectively over her mixed staff than could a Negro nurse. At one time, there was considerable covert friction between the attendant staff (Negro) and the medical staff (white). Finally it came out that the attendants felt the doctors were favoring the white patients. They cited as an example their belief that more Negro than white patients were being transferred to other hospitals for continued treatment. Such transfers have been regarded as punitive by patients and many of the staff. The facts were shown to be otherwise (see below) and relationships improved, probably because the attendants were given an opportunity to express their feelings about racial discrimination openly

to the medical staff, and their feelings of bias were accepted as quite natural.

In an effort to arrive at more subtle evidences of racial bias, a study project has been set up to determine if psychiatric treatment patients receive is affected by race to the extent that it is by social class (2).

In view of the great interest that has been shown in the effect of social class on psychiatric treatment, there is an amazing paucity of literature on the effect of racial differences. As a guide to setting up this study, some preliminary, tentative indices of differences in treatment have been reviewed on the basis of 1000 admissions to the psychiatric service. (See Table 1.)

half as many of this group were treated with EST than in any of the other 3 groups. At first glance, this might indicate that in this respect at least there is a striking difference in the type of treatment received on a racial basis. However, the use of EST in our unit is restricted almost exclusively to the more severe, psychotic types of depression. Reference to Table 2 reveals that the diagnosis of depression of psychotic proportions was made less frequently for the Negro males in our sample than in any other group of patients.

The number of white males with a depressive diagnosis was only slightly higher than Negro females, so the difference in diagnosis would not seem to be great

TABLE 1
Treatment Received by Sex and Race

	1 TOTAL CASES (1)	2 TREATED WITH EST (2)	3 INTENSIVE PSYCHO- THERAPY	4 READ- MISSIONS	5 TRANSFERS	6 LEFT AMA	7 FOLLOWED IN OPD	8 MEDIAN LENGTH OF STAY IN DAYS (3)
White female	39.9%	13.3%	47	12.8%	9%	8.5%	25.8%	68
Negro female	21.4% (214)	12.2%	8	14.0%	6.5%	7%	24.8%	63
White male	23.3% (233)	11.6%	6	14.1%	15.9%	4.3%	16.3%	75
Negro male	15.4% (154)	4.6%	2	13.0%	14.3%	4.3%	23.4%	65

1. Except for column 1, % refers to percent of total N for sex and race. 2. Children under 18 and over 60 excluded. 3. Patients under 18 and over 60 excluded.

Table 1 presents varieties of treatment considered by sex and race. The striking finding in column 2 is the low percentage of Negro males receiving EST. Less than

enough to account for the difference in number of Negro and white males treated with EST. Our conclusion is that there is a difference in the treatment received

TABLE 2
Diagnosis by Sex and Race

DIAGNOSIS	WHITE FEMALE (399)	NEGRO FEMALE (214)	WHITE MALE (233)	NEGRO MALE (154)
Chronic brain syndrome	3.8%	2.8%	7.7%	10.3%
Acute brain syndrome	.8%	2.8%	3.6%	6.5%
Psychotic depressions (1)	15.5%	3.7%	12.0%	3.2% (5)
Schizophrenic reactions (2)	27.5%	26.6%	25.3%	34.4%
Acute schizophrenia	9.3%	24.3%	8.7%	12.8%
Chronic schizophrenia (3)	14.3%	14.4%	20.6%	19.5%
Neurotic reactions	22.6%	20.6%	20.6%	12.3%
Other (4)	6.2%	5.8%	1.5%	.2%

1. Includes involuntal, MDD, and psychotic depressive reaction; 2. Includes catatonic, schizo-affective, and paranoid; 3. Includes hebephrenic and simple; 4. Manic, undiagnosed; 5. Does not include any diagnosed manic-depressive depressed.

by Negro males and white males in regards to this form of treatment which cannot be explained by difference in social class or diagnosis.

With regard to patients selected by the residents for intensive psychotherapy, there is a major bias in favor of white females. The resident staff is allowed great freedom in selecting patients for intensive psychotherapy; the presumption is that they will select those patients in whom they are the most interested. Of more than 30 residents who have received their first year of training at the Mercy-Douglass, none have been Negro and all except 4 have been male. The 4 female residents tended to choose adolescent patients and middle-age females for intensive work.

Readmissions to this unit include those patients who have been treated here and were then readmitted for subsequent treatment. There is a considerable degree of selectivity governing such readmissions, and this selection is considerably governed by staff interest in the patient. The percentage of readmissions for the various categories does not show any major difference in readmission policy on a racial or a sexual basis.

Transfers to other hospitals for continued care is another criterion of interest in the patient. There is no fixed policy as to how long a patient may remain for treatment; as long as active treatment is in progress, and as long as someone on the professional staff is devoting time to individual treatment, a patient may remain almost indefinitely. Several patients have remained a year or longer (28 altogether). Figures for the number of patients transferred indicates that there is a bias in favor of females, but race does not seem to be important in influencing selection for transfer.

The next criterion, that of patients signed out of the hospital against medical advice, is a much less clear indication of staff attitudes toward patients. The staff is taught to regard a discharge against advice as a treatment failure. They are urged to spend considerable time with patients and families trying to persuade them against resorting to this action. However, there is a tendency to spend more time advising against such a discharge in the case of those patients in

whom the staff is more interested. Probably a more important factor in determining a discharge against advice is the attitude of patient and family toward the hospital. Our figures indicate that sex is more important than race with regards to discharges against advice. Only once has a patient been kept in the hospital when the family insisted on her discharge.

The resident staff is encouraged to select a number of their inpatients to follow in the outpatient clinic when discharged from the hospital. We feel that this is another indicator of potential bias toward the patient. Here, bias seems to be against white males, with an almost equal number of the other 3 categories being followed.

The last column in Table 1 shows that there is no significant difference in median length of stay as regards to race and sex. However, a length of stay considerably exceeding the median does indicate a special interest in the patient. Of the 28 patients who remained a year or longer, 10 were white females, 12 were white males, 4 were Negro males, and only 2 were Negro females. This would indicate a strong racial bias on the part of the staff. Patients under the age of 17 and over the age of 60 pose particular problems in disposition in this community; they have been excluded from the calculations for median length of stay, but have not been excluded from the group remaining longer than 1 year.

Tables 2 and 3 present some of the general characteristics of the patient population studied. In the diagnostic table, the high incidence of organic brain syndromes and paranoid schizophrenia in Negro males is of interest. In our group, Negro patients showed a low incidence of psychotic depressions and a high incidence of acute schizophrenic reaction. Males of all races showed a high incidence of chronic schizophrenic reactions, and Negro males were seldom given a diagnosis of neurosis.

In Table 3, the preponderance of single men over single women and the low divorce figures for Negroes are of interest. The figures for patients reported as separated or widowed seem to be culturally determined. Age at time of admission shows a high rate of young Negro males which is balanced by low figures for older patients

TABLE 3
Age and Marital Status by Sex and Race

MARITAL STATUS	WHITE FEMALE (399)	NEGRO FEMALE (214)	WHITE MALE (233)	NEGRO MALE (154)
Single	32.8%	21.9%	49.5%	52.5%
Married	42.5%	50.6%	36.3%	30.9%
Separated	7.5%	20.6%	4.7%	6.5%
Widowed	9.7%	3.8%	4.2%	1.4%
Divorced	7.5%	3.1%	5.3%	.0%
AGE				
0-17	3.3%	5.6%	8.3%	15.6%
18-40	58.1%	69.2%	53.2%	63.6%
41-60	30.3%	22.0%	31.3%	18.2%
61 & over	8.3%	2.3%	8.2%	2.6%

in the same racial group. Since the majority of patients are selected for admission by the State Reception Center, the age groupings reflect their selection rather than the hospital's.

SUMMARY

A description of 5 years' experience involving a cooperative effort is presented. The chief cooperating agencies involved are the State and City governments, a community general hospital, and the Department of Psychiatry of a large university. This cooperation has worked rather smoothly with some administrative problems. Integrating a large psychiatric service in a community general hospital has not worked smoothly. Community-hospital cooperation has proceeded, but can be developed much more extensively.

Race relationships within the Department of Psychiatry have been the subject of special scrutiny, and the results of a pilot survey in this area are given. This preliminary survey has included some of the social and diagnostic characteristics of the patient population, and ways in which patients are treated psychiatrically. These figures are presented in terms of race and sex as applied to patients selected for intensive psychotherapy, electroshock, transfers to other hospitals, outpatient clinic referrals, discharges against medical advice, readmissions to the service, and length on the service.

CONCLUSIONS

1. A workable arrangement involving many different agencies can be established.

2. The difficulties of integrating a proportionately large psychiatric service for severely ill and chronically ill patients with a general community hospital are marked but not insurmountable.
3. Previously reported diagnostic differences in groups of Negro and white patients are supported by this survey.
4. Race appears to be a major factor in the selection of patients for intensive psychotherapy in this setting.
5. Sex appears to be a more important factor than race in determining other types of psychiatric treatment, such as electroshock, transfers, discharges against advice, and referral to outpatient clinics in this setting.
6. Racial differences are frequently used as rationalizations for expressing buried feelings, both on the part of staff and patients.
7. Racial difference in symptomatology need to be explored further.
8. Cultural differences are more important influences on psychiatric treatment than are racial differences.

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PSYCHIATRIC CORRELATES OF EVOKED CEREBRAL CORTICAL POTENTIALS^{1,2}

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The potentials evoked at the cerebral cortex by sensory stimulation are not detectable in the usual electroencephalogram recorded from electrodes placed on the scalp. However, the evoked potentials may be extracted from the larger "spontaneous" rhythms of the EEG by applying Dawson's (1) averaging principle. Using averaging, we have been exploring the characteristics of somatosensory evoked potentials in psychiatric syndromes. The recovery cycle is one aspect of cerebral responsiveness which can be measured by this approach. It is determined by administering pairs of stimuli, separated by varying intervals. The size of the second response, compared to the first, indicates the extent to which responsiveness has recovered after a given interval.

We have previously reported the results obtained in an initial study of recovery function in 13 nonpatient subjects and a mixed population of 92 psychiatric patients (2, 3). The normal recovery curve to 200 msec. tended to be biphasic, with initial return of full responsiveness by 20 msec., followed by a phase of diminished recovery, and a second phase of full recovery, or supernormality, peaking at 120 msec. The main differences found between groups were in the early recovery phase. The amount of recovery by 20 msec. was significantly less than normal in three groups of patients: personality disorders, schizophrenias, and psychotic depressions. Recovery did not differ from normal in a group which could be designated as "dysthymic neurosis"; it consisted of patients diagnosed as

anxiety, depressive, or psychophysiologic reactions. After successful treatment, the recovery curves of psychotic depressive patients returned to normal, indicating that deviant recovery is reversible (4).

The study was carried out to verify the previously found relationships between recovery function and psychiatric diagnosis, using another experimental population.

METHODS

Detailed descriptions of recording procedures have been presented elsewhere (2, 3). The photographic averager described by Shipton (5) was used to extract evoked potentials. The central component of this averaging system is a modified Tektronix 502 twin beam cathode ray oscilloscope. Its basic feature is that amplitude changes are depicted by fluctuations in beam brightness instead of the usual vertical, or Y-axis, deflections. Each sweep is thus a straight line, varying in brightness. For successive sweeps, the beams are systematically displaced by a raster. They are recorded on a continuously exposed Polaroid transparency. Consistent effects of the stimuli are seen as regular vertical light or dark bands on the film. Optical analysis of the film is accomplished by moving it over a slit through which a beam of light passes onto a photomultiplier, the output of which is written out by an XY plotter. This yields tracings like those shown in Fig. 1, which are the average of 100 responses.

Somatosensory potentials were evoked by electrical stimulation over the ulnar nerve at the wrist, using a Grass S4 stimulator and isolation unit. Recording and stimulating electrodes were chlorided silver discs. Scalp leads were bipolar, placed 7 cm. parasagittally on the hemisphere contralateral to the stimulated wrist, with the presumably active lead 2 cm. behind the mid-coronal plane and the other lead 5 cm. anterior. Stimulus durations ranged from 0.1 to 0.24 msec., and intensity was adjusted to produce a visible twitch of the little finger. The stimu-

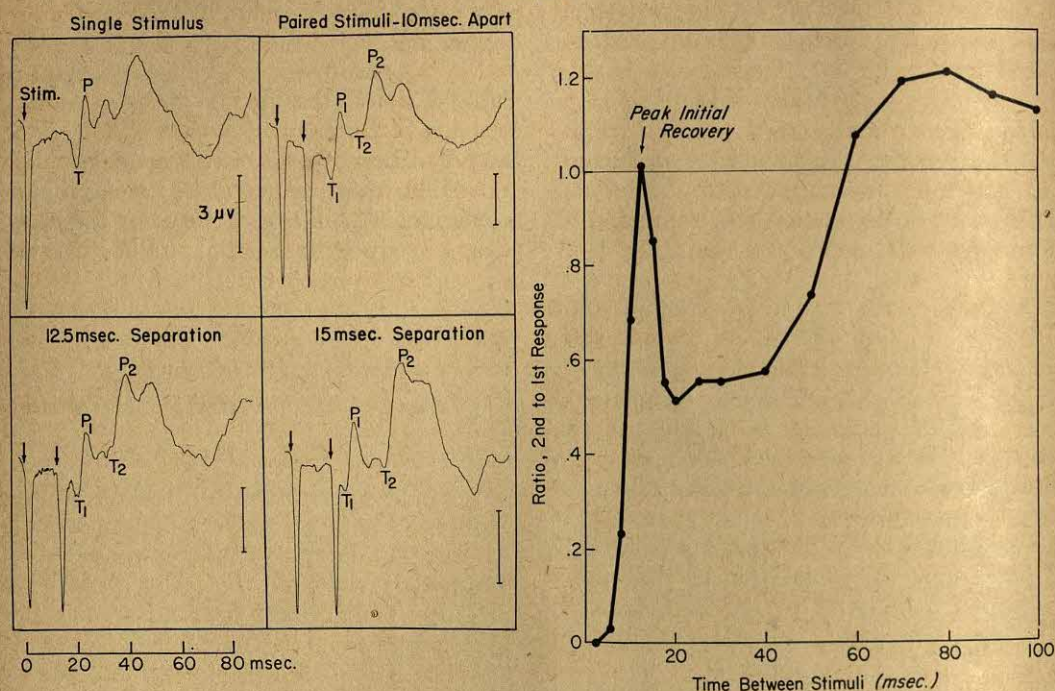
¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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FIGURE 1



Sample tracings and recovery curve to 100 msec. for one subject. Each tracing, average of 100 responses. Upward deflection indicates relative positivity at electrode over somatosensory area. Amplitudes measured from T, maximum negativity (trough) to P, maximum positivity (peak). All calibrations, 3 microvolts. Peak ratio of amplitudes (R_2/R_1) during initial recovery phase was at 12.5 msec. in the smoothed curve although ratio appears largest at 15 msec. in tracings; this was because correction for effect of first stimulus was greater at 15 msec. than at 12.5 msec.

lus repetition interval was 1.3 sec. For a single averaged tracing 100 stimuli or stimulus pairs were administered. The initial, or primary, component of the somatosensory evoked potential begins with a negative deflection (downward in Fig. 1), which is maximum about 20 msec. after stimulus onset. This is followed by a positive (upward) deflection, which reaches its peak at an average latency of 25 msec. There are then a number of later components, which are rather variable from person to person in form and latency, and may also change considerably in the same subject depending upon such factors as the intensity of stimulation and the state of alertness. Because the later components are so variable, we have devoted our attention to the primary evoked potential, which can nearly always be identified with certainty. Amplitude was measured from maximum negativity to maximum positivity of the primary component, indicated by T and P in Fig. 1.

To measure a recovery cycle to 190 msec.,

29 averaged tracings were taken. Three of these were of responses to single, unpaired, stimuli. Twenty-six were with paired stimuli. Stimulus separations were increased in steps of 2.5 msec. from 2.5 to 20 msec., in steps of 5 msec. to 30 msec. separation, and in steps of 10 msec., thereafter. Fig. 1 shows a series of tracings from a subject whose recovery cycle pattern was like that of the average nonpatient. Actually this was a patient who had recently recovered from an acute schizophrenic episode. The second response appears larger than the first at separations of 12.5 and 15 msec. The curve at right plots the relative amplitudes of second, compared to first, responses (R_2/R_1) as a function of stimulus separation to 100 msec. There may seem to be some degree of discrepancy between the ratios plotted in the curve and those expected from inspection of the tracings. These are due to two procedures regularly used in processing the data. One is a subtraction procedure employed to estimate the actual size of the

second response, independent of the effects of the first stimulus. The changes, which responses to an unpaired stimulus indicate would have occurred at the same time as the second response, were subtracted from the apparent response to the second stimulus. The second is a smoothing procedure (6), which has been applied to all our data.

*The subject population was composed of 27 nonpatients and 75 patients. Table 1

significantly lower than normal in personality disorders, schizophrenias and psychotic depressions, and would not differ from normal in the group we have called dysthymic. Table 2 shows the median recovery ratios for each of the main groups, together with the proportion of cases with a recovery ratio above .90, a value which is close to the median for all subjects. Comparing the non-patient group with the group of 75 patients

TABLE 1
Subjects Used for Present Study

GROUP	NO. CASES	NO. MALES	AGE (YRS.)	
			RANGE	MEDIAN
Nonpatient	27	14	18-43	23
Dysthymic	18	8	15-50	31
(4 anxiety, 7 depressive, 2 obs.-comp., 5 psychophysiol.)				
Personality disorders	23	6	15-54	23
(2 pattern, 12 trait, 9 sociopathic)				
Schizophrenias	9	3 *	22-44	25
Psychotic depressions	10	3	36-62	58
Miscellaneous	15	4	14-59	25
(2 conversion, 4 adjustment reactions, 4 paranoid states, 2 brain syndromes, 3 undiagnosed)				
All Patients	75	24	14-62	27

describes the groups in terms of diagnosis, sex and age. Nonpatients were paid volunteers, mainly college students. Patients were consecutive, testable, hospital admissions. Diagnoses were those made at discharge by senior staff. The patient sample contained fewer cases of schizophrenia and psychotic depression than one would have liked. The relatively small number in these categories admitted during the data-taking period was further reduced by prior administration of medications, which could not be stopped for at least 48 hours prior to testing. The nonpatient group was somewhat younger than the patient group, and contained a higher proportion of male subjects.

RESULTS

Results are presented in terms of the maximum amount of recovery achieved by 20 msec., as indicated in the smoothed recovery curve (Fig. 1). This is the convenient single numerical index used in our previous studies. From the first study, it would be predicted that initial recovery would be

TABLE 2
Diagnosis and Peak Recovery by 20 msec.
(Present Study)

DIAGNOSTIC GROUP	NO. CASES	MEDIAN RATIO	RATIO NO.	>.9 PERCENT
Nonpatients	27	1.04	22	81.5
Personality disorders	23	.73	3	13.0
Schizophrenias	9	.75	2	22.2
Psychotic depressions	10	.86	4	40.0
Total	42	.77	9	21.4
Dysthymics	18	1.04	12	66.7
Miscellaneous	15	1.06	12	80.0
Total	33	1.04	24	72.7

as a whole, the ratios were significantly higher in the nonpatients (chi square, 9.7; 1 df; $P < .01$). As indicated by the table, median ratios of the dysthymic and miscellaneous groups of patients were almost the same as the nonpatient median, whereas

median ratios were lower in the personality disorder, schizophrenic and psychotic depressive groups. The chi square obtained by treating the patients as two groups, divided as indicated by the totals in Table 2, and the controls as a third, in a 2 by 3 table, was 30.8 ($P < .001$).

The results for the psychotic depressive patients did not differ as much from those of controls and dysthymics as they did in the earlier study. Examination of their case histories suggested that this may have been due to inclusion of some atypical cases under this diagnostic heading. The results for patients with personality disorders were more clearly deviant from normal than in the previous study and the results for schizophrenic patients were about the same. In general then, present results verified the previous recovery cycle findings.

We have previously reported that the coefficient of reliability of the index of initial recovery was .78(2). This reliability coefficient refers to the peak ratio by 20 msec. Additional data, obtained in 25 subjects of the present sample, permitted us to estimate the reliability of the shape of the early portion of the recovery curve. In these subjects, two curves were determined during the same test session to separations ranging from 25 to 50 msec. For one curve, three stimuli were administered instead of two, but it was possible to compare the R_2/R_1 ratios for each. For each subject, rank order correlations were determined between ratios at identical separations. Correlation coefficients ranged from .25 to 1.00, all but 4 being .60 or higher; 11 of 25 were .90 or higher. The median coefficient was .75. This indicates that the shape of the whole early portion of the recovery curve was about as reliable as the peak value by 20 msec.

Table 3 shows the results obtained by combining the data of both studies on recovery cycles. Two patients, classed as undiagnosed in the earlier study, were subsequently diagnosed schizophrenia and are so placed in the table. The ratio of .90 was exactly the median for all 207 subjects. Whereas 87.5% of the controls had a peak initial recovery ratio of .90 or greater, only 22.3% of patients with diagnoses of personality disorders, schizophrenia, or psychotic depression achieved this level of initial re-

covery. The difference between nonpatients and each of these three patient groups was highly significant ($P < .001$). Recovery ratios in dysthymics, who constituted the only other large patient group, did not differ significantly from those of nonpatients. Fig. 2 shows the percentage distributions of

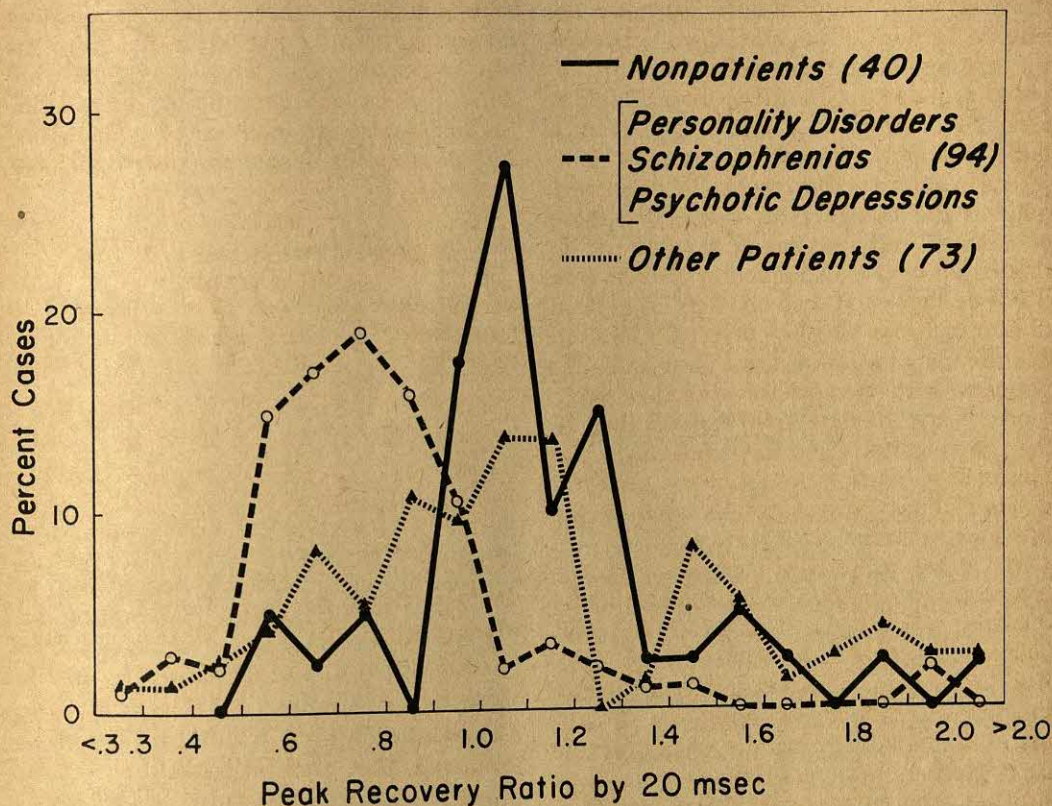
TABLE 3
Diagnosis and Peak Recovery by 20 msec.
(2 Studies Combined)

DIAGNOSTIC GROUP	NO. CASES	MEDIAN RATIO	RATIO NO.	>.9 PERCENT
Nonpatients	40	1.07	35	87.5
Personality disorders	38	.76	10	26.3
Schizophrenias	25	.75	6	24.0
Psychotic depressions	31	.69	5	16.1
Dysthymics	37	1.10	28	75.7
Conversion reactions	6	.80	2	33.3
Adjustment reactions	8	.90	4	50.0
Paranoid states	5	.97	4	80.0
Manics	3	.65	1	33.3
Brain syndromes	6	1.35	5	83.3
Undiagnosed	8	1.00	4	50.0
All Patients	167	.84	69	41.3

initial recovery ratios for nonpatients, the deviant patient groups combined, and the remaining patients.

Combining the data of the two studies still did not provide sufficient numbers of cases for statistical analysis in diagnostic categories, other than those mentioned. Some trends suggested by the results in these other groups are, however, worthy of comment. There were 5 cases of paranoid state, of whom only one had a ratio below the median. The results in this group present the only exception to the general conclusion that recovery is lower than normal in the "functional" psychoses. The 6 cases with diagnoses of conversion reaction tended to have lower recovery ratios than the dysthymics; although more cases are needed, the difference has prompted us to treat the conversion reactions separately from other psychoneuroses for the time being. The data for the 6 cases with brain syndromes are of particular interest. Ratios

FIGURE 2



Percentage distributions of peak initial recovery ratios for subjects of present and previous studies (2, 3), divided into three groups.

in this group tended to be high. The brain syndromes were rather diverse, ranging from toxic psychosis to craniopharyngioma. The fact that recovery was not diminished in this group has the important implication that the behavioral changes associated with organic brain damage need not necessarily be accompanied by altered recovery, *e.g.*, the case with the craniopharyngioma displayed marked memory deficit and personality change, but his recovery ratio was normal.

In both present and previous studies, the initial recovery ratio was not correlated with age. Although the ratio did not differ significantly between the sexes in the first study, there was a sex difference in present data. The ratios of females were significantly lower than those of males. Combining the data of the two studies, the sex difference was still highly significant (Table 4). Accordingly data were compared for sub-

ject groups of the same sex. Table 4 shows that group differences in recovery within each sex were highly significant statistically, indicating that they did not depend on sex distribution differences. It will also be noted that the median ratios of male and female nonpatients were almost identical. The absence of sex difference in nonpatients favors the probability that recovery does not really differ between the sexes, and that differences found in the present sample may be attributed to unequal sex distribution by diagnosis.

DISCUSSION

The results of this study were in general agreement with those of our previous investigation of somatosensory recovery function in psychiatric patients. Here, as before, recovery in the initial phase was found to be diminished from normal in patients with personality disorders and major "functional"

TABLE 4
Diagnosis and Peak Recovery by 20 msec. for Each Sex
(2 Studies Combined)

DIAGNOSTIC GROUP	MALES			FEMALES		
	NO. CASES	MEDIAN RATIO	% CASES > 1.01 *	NO. CASES	MEDIAN RATIO	% CASES > .80 *
Nonpatients	21	1.07	66.7	19	1.09	79.0
Pers. disorders, schizophrenias, psychotic depressions	26	.82	23.1	68	.70	29.4
Remaining patients	25	1.07	68.0	48	.97	68.8
All Subjects	72	1.02	51.3	135	.81	50.2

* Median points for total sample, each sex.

Chi square, between sexes (1 df), 17.51 ($p < .001$).

Chi square, between groups of same sex (2 df), Males, 13.05 ($p < .01$).

Females, 24.64 ($p < .001$).

psychoses, and similar to normal in dysthymic neuroses. Although the remaining patients did not, as a group, differ significantly from normal in recovery, many more cases will be required to evaluate each diagnostic group separately.

In a recent investigation we found that another evoked potential measure of cerebral responsiveness, the intensity-response gradient, was correlated with psychiatric diagnosis (7). The evoked potential first appears at sensory threshold and increases as a function of stimulus intensity (8). The curve relating response amplitude to intensity is the intensity-response gradient. In our data, the gradients were linear if intensity was scaled in logarithmic units. The slopes of these linear gradients were found to be significantly steeper in psychiatric patients than in nonpatients. Dysthymics, as in the recovery studies, were the exception; their gradients were like those of nonpatients. In the same study relationships between intensity-response gradients and recovery functions were analyzed in 44 subjects with both determinations. The results indicated that these were relatively independent correlates of psychiatric diagnosis.

Our studies of evoked potentials have so far yielded two psychiatrically relevant measures of cerebral responsiveness. It seems reasonable to expect that additional indicators will be found with further investigation. The evoked potential method thus seems to offer a fruitful approach to

the study of brain mechanisms in psychiatric disorders. More precise delineation of relationships can reasonably be expected as techniques are refined and larger samples of subjects, classified along variables which may be more discriminative than psychiatric diagnosis, are studied.

One outcome to be hoped for from these studies is that they will serve to focus animal experimentation on the problems of mechanism. Our own work in the cat has so far implicated the reticular formation as an important influence on the recovery function. We found that recovery changes with spontaneous or drug-induced alterations of alertness (9), that it is retarded by barbiturates (10), and that it is speeded by direct electrical stimulation applied to the mesencephalic reticular formation. It is too early to relate these effects to recovery changes found in psychiatric illness.

Our current ideas about the functional significance of the recovery index are at a primitive level. We have been struck by the fact that recovery is diminished or retarded in conditions which are characterized by unusual conduct, the personality disorders and "functional" psychoses. Diminished recovery implies that stimuli following the first in a sequence do not elicit the same cerebral response until some time has elapsed. This could form a basis for perceptual distortion, or incapacity to perceive all available cues, which could in turn lead to deviant conduct.

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QUANTITATIVE RELATIONSHIPS IN THE SYSTEMATIC DESENSITIZATION OF PHOBIAS¹

JOSEPH WOLPE, M.D.²

One of the most widely applicable generalizations from modern medical research is that pathological processes are functionally related to normal physiology. It may be assumed that this is true in psychiatry too, but, in the field of the neuroses, there has been little attempt to study such relations, largely because conventional psychiatric training has discouraged interest in experimentally established psychological laws. Only recently has there developed an approach to the problems of neurosis based on experimental psychology. This has given the therapist for the first time a substantial degree of direct control over neurotic reactions. The present contribution demonstrates the concordance of the effects of a particular therapeutic procedure with a general psychological law—the psychophysical law(7, 8).

Introductory Background. That anxiety is a feature of almost all human neuroses is acknowledged by all psychiatrists no matter what theories they hold. The conventional belief (for which there has never been scientifically acceptable evidence) is that neurotic anxiety is secondary to other processes, e.g., repression. By contrast, there is now substantial experimental and clinical evidence that neurotic anxiety is nothing but a conditioned (learned) response. In broad terms, neuroses are seen as persistent, unadaptive, learned habits of reaction acquired in anxiety-generating situations with

anxiety usually pre-eminent among the reactions learned(12).

It has been shown that, by the application of principles of learning, neurotic habits can be overcome both experimentally (9, 12) and clinically (2, 4, 10-12) with effects that are evidently permanent.³ In both contexts, particularly effective use has been made of the *reciprocal inhibition principle* first recognized by Sherrington(6). In psychotherapy this is applied by arranging conditions so that the neurotic response can be inhibited by the simultaneous elicitation of a dominating incompatible response.

The therapeutic possibilities of the reciprocal inhibition principle first appeared in the course of studies on experimental neuroses in cats(9, 12). Unlearning of neurotic responses was procured by feeding the animal a number of times while it was responding with mild anxiety to a stimulus slightly resembling some aspect of the conditioning situation. The strength of the anxiety response to the particular stimulus progressively declined, eventually to zero. Increasingly "strong" anxiety-evoking stimuli were successively dealt with in this way; and eventually the conditioned anxiety responses were eliminated from the whole range of stimuli. Apparently, each time the animal fed, the anxiety response was to some extent inhibited; and each occasion of inhibition was followed by some degree of weakening of the anxiety response *habit*.

Among various psychotherapeutic methods that have been based upon this experimental paradigm there is one that is known as *systematic desensitization*(12, 13). In this deep muscle relaxation is the source of inhibition of anxiety. The procedure consists of three sets of operations: 1. The patient is given training in Jacobson's progressive relaxation but in an abbreviated way, occupying only part of each of about 6 sessions. 2.

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³ Numerous clinical reports have been assembled by Eysenck(3). For recent discussions of theoretical issues see(1, 5).

During the same interviews steps are taken toward the construction of what is called an "anxiety hierarchy." This is a list of stimulus situations to which the patient reacts with unadaptive anxiety. The items are then grouped according to themes: *e.g.*, a particular patient may have a social disapproval theme, a crowd theme, and a height theme. The items of each theme are ranked, the most disturbing of them being placed at the top of the list and the least at the bottom. 3. When the hierarchies have been prepared and the patient has received sufficient training in relaxation, he is made to relax as deeply as possible. He is then asked to imagine a scene embodying the least disturbing member of an anxiety hierarchy. The scene is presented again and again until it ceases to evoke any felt disturbance whatsoever. The therapist then proceeds to deal in the same way with the next scene higher in the hierarchy. Through such progressive steps, even the highest member of the hierarchy is eventually deprived entirely of its ability to evoke anxiety. There is almost invariably a one-to-one relationship between what the patient can imagine without anxiety and what he can experience in reality without anxiety.

The desensitization method, though most obviously suited to the treatment of the classical phobias, is also very effectively applied to overcome neurotic anxieties evoked by a very wide range of stimulus themes, such as situations of rejection, the sight of discord between others, and the stimulus sources of hypochondriacal reactions. It is applicable, in fact, to almost any source of neurotic anxiety not involving inadequacies in the handling of interpersonal relationships (12).

Results of desensitization therapy were recently published with respect to 68 hierarchies from 39 patients (13). They included both classical phobias and allied neurotic response habits related to more complex situations. The treatment was judged effective in 35 of the patients. Forty-five of the phobic and allied anxiety habits were apparently eliminated and 17 more were markedly ameliorated, *i.e.*, estimated to be at least 80% improved.

The Present Investigation. Because of the repetitiveness of its operations, the desen-

TABLE 1

Patients	39
Number of patients responding to treatment	35
Phobias totally overcome	45
	(91%)
Phobias markedly improved	17
Phobias unimproved	6 (9%)
Total number of desensitization sessions	762
Mean session expenditure per phobia	11.2
Mean session expenditure per successfully treated phobia	12.3
Median number of sessions per patient	10.0

sitization technique lends itself to quantification. The number of scene presentations needed to overcome a particular thematic system of neurotic anxiety responses has varied in different cases from a dozen or so to more than 2,000.

Some time ago, during a perusal of the records of cases treated by desensitization, it was noted that the number of scene presentations required to make a given amount of progress was often not uniform, in some cases increasing and in others decreasing as treatment went on. In other words, in the advance of desensitization to encompass increasingly disturbing situations, sometimes more and more effort was required per unit advance, and sometimes less and less.

Subjects and Material. To investigate the determinants of these quantitative variations, it was necessary to select for study hierarchies that varied along a quantifiable stimulus dimension. In all hierarchies there is *ipso facto* quantitative variation in terms of magnitude of anxiety response, but the magnitude of the stimulus sources can not always be compared. For example, if a patient is neurotically disturbed by situations of implied criticism or rejection, while the situations can be ranked according to amount of disturbance they produce, they can not be objectively measured and compared with each other as stimulus quanta. On the other hand, in acrophobias, for example, anxiety increases with height, and height is independently quantifiable.

As might have been expected, the hierarchies that can be quantified relate to

phobias of the classical type. The phobias that have been the subject of the present study have been grouped as follows: 1. Phobias in which anxiety increases with *decreasing* distance from a fearful object or situation (proximation phobias). 2. Phobias in which anxiety increases with *decreasing* space and/or freedom of movement (claustrophobias). 3. Phobias in which anxiety increases with *increasing* distance from a *safe* point or person (remoteness phobias). 4. Phobias in which anxiety increases with number of phobic objects.

Among the cases surveyed for possible inclusion in this study there were many who had phobias that fell into the above groups but that had to be excluded for practical reasons. In some cases, the patient's level of anxiety was influenced by other factors than the linear phobic dimension, and operations desensitizing to such factors were interspersed in an irregular manner among operations relevant to the studied dimension. For example, in a patient who had a fear of being alone, the intensity of fear was determined not only by distance but also by time of day. Since desensitization on the two variables was carried on concurrently, it was not possible to determine how much of the work at any particular stage was due to the distance factor per se. In other cases the hierarchies were not conceived in quantitative terms, although they could have been. For example, a claustrophobic hierarchy included such items as being in an elevator, lying under a bed, and lying in bed under tight blankets—for much of which changing cubic dimensions in a constant situation *could* perhaps have been substituted, but in fact were not.

Our subject matter is 20 series of desensitization operations in phobias of 13 patients, all of which were completely overcome. Most of these phobias were self-contained, but in 2 patients—a phobia for funerals in one, and phobias for dead dogs and tombstones in the other—the phobias were parts of extensive anxiety response groups on the general theme of death.

Procedure. In each case we had a written record of the number of repetitions of each scene presented to the deeply relaxed patient at every session, and of how much, if

any, decrement of anxiety followed the presentations. Thus, in a phobia for heights it would have been recorded that 8 imaginings of looking down from a height of 10 feet reduced anxiety at that scene to zero, 6 imaginings at 20 feet, 5 at 30 feet, and so forth.

The procedure was to plot graphically for each stage of conquest of the phobia the *cumulative* number of scene presentations that had been given, up to and including that stage. The reason for using the cumulative number and not that for the separate stage of the hierarchy is that the pre-treatment level of anxiety at any stage would be indicated by the *total* number of presentations employed to bring down to zero the totality of anxiety aroused by stimuli up to that stage. To illustrate this, let us consider the acrophobic example just mentioned. The relative intensity of anxiety at 10 feet before treatment is conveyed by the scene presentations to reduce it to zero—*i.e.*, 8. The relative pre-treatment intensity of anxiety at 30 feet would be indicated by the *total* scene presentations used to achieve zero anxiety at 30 feet, *i.e.*, $8 + 6 + 5 = 19$ —and obviously not by the last group of presentations only, *i.e.*, 5.

Results. In every case, the cumulative curve displayed a consistent trend, being either a positively or a negatively accelerating function. The character of the trend was determined by the type of phobia being treated. In phobias in which anxiety increased with increasing proximity to a particular object, and also in claustrophobias, the cumulative curve accelerated positively. In phobias in which anxiety increased with distance from a *safe* point, and in those in which it increased with increasing *numbers* of phobic objects, the curve accelerated negatively. No exceptions were found. The broad findings are illustrated by the first four figures, each of which contains the curves of a particular group. (In order to make them comparable, the curves have been subjected to percentile transformations.) The horizontal axis shows attained percentage of criterion of recovery, and the vertical axis scene presentations as a percentage of the total number finally employed to overcome the whole hierarchy.

FIGURE 1

PERCENTILE CUMULATIVE CURVES: DESENSITIZING OPERATIONS IN PROXIMATION PHOBIAS IN DIFFERENT SUBJECTS

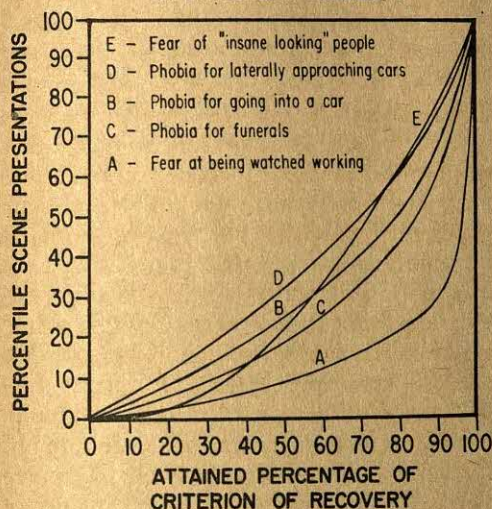


FIGURE 2

PERCENTILE CUMULATIVE CURVES: DESENSITIZING OPERATIONS IN CLAUSTROPHOBIA

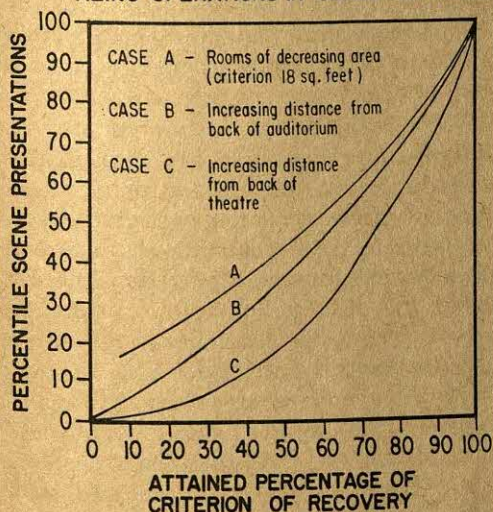


FIGURE 3

PERCENTILE CUMULATIVE CURVES: DESENSITIZING OPERATIONS IN PHOBIAS INVOLVING INCREASING DISTANCE FROM A SAFE POINT: AGORAPHOBIA OR ACROPHOBIA

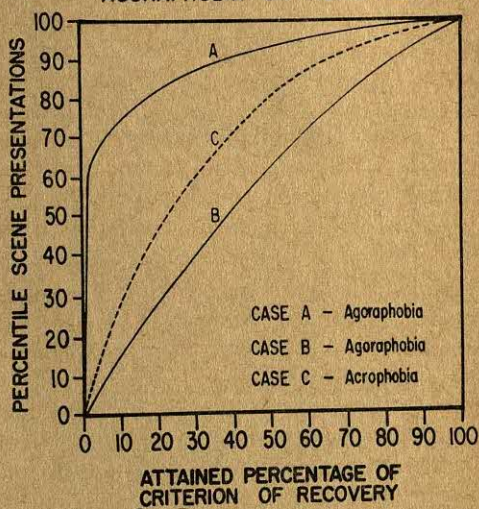


FIGURE 4

PERCENTILE CUMULATIVE CURVES: DESENSITIZING OPERATIONS IN PHOBIAS INCREASING WITH NUMBERS OF PHOBIC OBJECTS

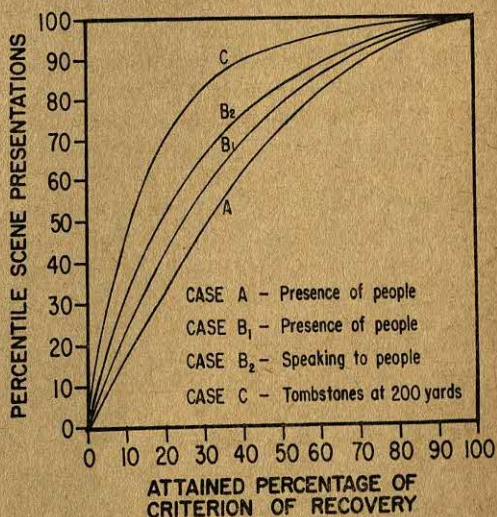


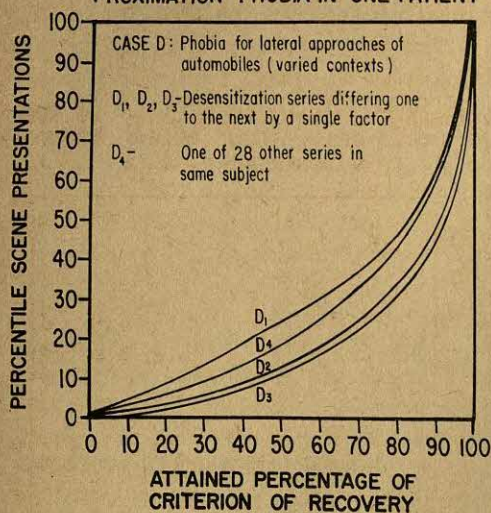
Figure 5 shows the general consistency of form of the desensitization curves of 4 hierarchies in one patient with a severe phobia for laterally approaching cars (reported in detail elsewhere(14)). Hierarchies D₁-D₃ differed from each other by a single stimulus variable. The curve of hierarchy D₄, which lies snugly among the others, comes from quite a different manifestation of the phobia.

A question that may legitimately be

raised is: Is the form of a desensitization curve simply a reflection of the type of phobia, or is there something about the personality of the patient that determines both the type of phobia he acquires and the course desensitization takes? An immediate answer is afforded by Figure 6, which shows 3 cumulative curves obtained from a single patient. That displaying negative acceleration (B) delineates the therapeutic effort involved in desensitization of the

FIGURE 5

PERCENTILE CUMULATIVE CURVES: DESENSITIZING OPERATIONS IN SEVERAL ASPECTS OF PROXIMATION PHOBIA IN ONE PATIENT



anxiety response to an increasing number of tombstones at 200 yards. The positively accelerating curves belong respectively to proximation phobias to a dead dog (A) and to a stationary automobile (C), and are strikingly similar. Desensitization functions, then, are phobia-specific, not person-specific. (Note, incidentally, how closely the fitted curves approximate the plotted points.)

Functional Relations. Mathematical analysis of the above curves reveals that, with the exception of that for agoraphobia curve

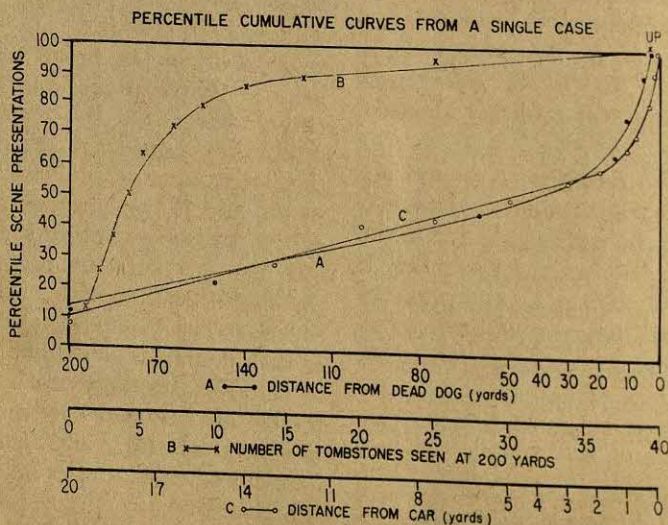
A in Figure 3 and curve C in Figure 4 (both of which will be commented upon subsequently), they express the same kind of functional relation as had been noted by Stevens (7, 8) in relating the physical magnitude of a stimulus to its perceived intensity—the “psychophysical law.” The method of direct correlation has yielded the general empirical rule that the psychological magnitude is a power function of the stimulus magnitude. This means that to make one stimulus seem twice as strong as another, the physical energy must be increased at a fixed ratio, no matter what the initial intensity level. The relationship is expressed by the formula: $P = kS^n$ where P stands for perceived intensity (psychological magnitude), S for stimulus magnitude, k is a constant, and n the exponent of the relationship. The exponent is determined empirically by the formula

$$n = \frac{\log 0.5}{\log r}$$

where r is the ratio between the physical magnitude of a given stimulus and the physical magnitude of the stimulus that appears twice as strong as the given stimulus.

Insofar as the desensitization curves portray this kind of functional relation it may be deduced that the amount of work required for each measured unit of progress in overcoming these phobias is a function of the correlated magnitudes of the subject's

FIGURE 6



pre-treatment response, the relevant measure of response here being *autonomic response magnitude* instead of perceived magnitude.⁴ As a decisive test of our presumption an investigation is needed that would compare 1) the curve of directly measured autonomic magnitudes of response to stimuli at different points in hierarchies before treatment and 2) the curve of subjective disturbance to these stimuli before treatment, with the desensitization curve subsequently obtained.

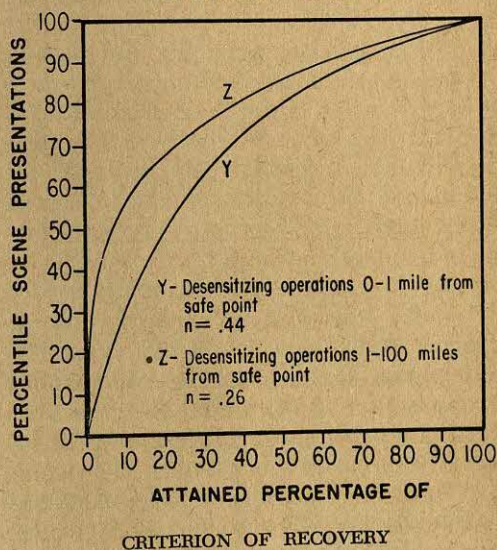
The foregoing applies quite obviously to the proximation phobias, the claustrophobias, and to the phobias in which anxiety increases with number of feared objects. In all these the attention of the patient is focused on fearful stimulus configurations. In the case of the remoteness phobias (agoraphobia and acrophobia) the focus is on a safe point to which in a sense the patient looks backward as he moves into "danger," and the curve is clearly the reciprocal of that of the proximation phobias—as would be expected if it is a function of stimulation intensity of the safe point. The *increment* of fear per unit increase of distance becomes less as gross distance grows greater.

For several of the curves the value of the exponent n was determined by Stevens' formula (v.s.), the value of r being derived from the point on the x axis at which $y = 50\%$ (0.5). Among the proximation phobias (Figure 1) the exponent of the middle curve, "C," is about 3.0. Among the phobias varying with numbers of phobic objects (Figure 4) the value for Curve B₂ is 0.43. The middle curve, "C," in the remoteness phobia group (Figure 3) is almost identical with this.

Curve "A" of the remoteness group does not conform to a power function. However, the desensitization distances reflected in the curve ranged from 20 yards to 100 miles. It is obvious that a person's perception of differences of yards may vary in quite a dissimilar way from that of differences of

miles. It was therefore decided to plot separate curves for 0-1 mile and for 1-100 miles. Two power function curves were obtained (Figure 7), the first (0-1) being

FIGURE 7
PERCENTILE CUMULATIVE CURVES OF SUB-DIVIDED DESENSITIZING OPERATIONS IN AGORAPHOBIA CASE "A"



fairly similar to the theoretical curve $n = 0.44$, and the second (1-100) conforming almost exactly to the theoretical curve $n = 0.26$. Curve C in Figure 4 fits an exponential function [$P = 76.11 (1 - 0.85^n)$] a good deal better than a power function, but remains close enough to the power curve $n = 0.3$ not to constitute a damaging exception to the rule.

Implications. In broad terms, this study has two implications, one theoretical and one practical. On the *theoretical* plane it establishes more firmly than ever (14) that the desensitization procedure has its therapeutic effects by conditioning. Therapeutic effects that seem to accord with psychophysical laws are consonant with conditioning theory, rather than with so-called "dynamic" theories. The *practical* result of this study is that it affords a method for predicting, in certain cases, how much more treatment is likely to be needed when desensitization has gone on for long enough to provide data from which to derive a mathematical function.

⁴ A corollary of the present study is the prediction that in cases in which stimulation has both perceptual and autonomic response consequents, the perceptual and autonomic magnitudes will, as a rule, be linearly related to each other.

SUMMARY

Since it had been noted that in the desensitization treatment of phobias the number of presentations of a scene required to bring the anxiety level down to zero is not uniform but tends to increase or decrease on the way up a hierarchy, an attempt was made to establish quantitative relations by a study of those phobias that vary along a physical dimension. It was found that in claustrophobias and phobias in which anxiety rises with increasing proximity to a feared object the number of scene presentations to zero anxiety is low at a distance and increases with proximity, the cumulative curve corresponding to a positively accelerating function. In agoraphobias as in phobias increasing with number of objects the number of presentations needed is initially high and progressively falls as distance grows, the cumulative curve corresponding to a negatively accelerating function. In both cases the number of presentations to advance a segment of given size varies inversely with the distance of that segment from the central "safe zone" (as in agoraphobia) or "danger zone" (as in claustrophobia) in accordance with a simple power function such as has been constantly found to be the functional rela-

tion between stimulus magnitude and psychological magnitude.

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PROGNOSIS FOR PSYCHIATRIC ILLNESS IN THE AGED ¹

M. STRAKER, M.D.²

The marked increase in the number and proportion of elderly citizens is having an impact on medical practice and on hospital procedures. There is a sharpening focus on problems related to aging, embracing medical, social, psychologic, economic and cultural issues. In some of these areas, clarification is proceeding, but solutions have not yet evolved, and much work remains to be done.

The biologic basis of aging is not yet understood, so that therapy cannot be founded on etiologic considerations, but remains empiric in nature. However, the application of trial and error therapy justifies a new optimism regarding the medical care of the aged. When unwarranted therapeutic pessimism is overcome, it can be shown that medical, psychiatric, surgical and rehabilitation resources can be brought to bear effectively in rescuing many of the aged from progressive ill health, neglect, and psychological regression and dilapidation.

The writer's experience with the aged group consists of patients seen in private psychiatric practice, in the institutional setting, and the general hospital; it includes also a lengthy association with a hospital for the chronically ill.² Particular considerations pertaining to diagnosis and therapy in the latter institutionalized group have already been reported(1-5). The present study, in contrast, is from material drawn entirely from the community level. This report deals with 100 patients who were examined, assessed, and treated in private

practice. The data obtained are analysed in relationship to etiological and precipitating factors, the kind of illness reaction, the type of therapy used, its effectiveness, overall treatment results, etc.

Age and Sex Distribution. Table 1 outlines the age and sex distribution in the 100 cases.

TABLE 1

AGE (YRS.)	FEMALES	MALES	TOTAL
60-64	22	14	36
65-69	15	14	29
70-74	12	12	24
75+	6	5	11
Average Ages	66.9 yrs.	67.4 yrs.	
TOTAL	55	45	100

The predominance of females over males reflects the greater longevity of the female and is consistent with overall population studies. There is no clear agreement about the chronological age appropriately labelled as "old age." Thirty-six patients fell into the 60-64 year group, while 64 were 65 years of age and older. The oldest patient was 85 years of age.

Social Milieu: Marital, Economic Working Status, Social Activities. Table 2 sets down the sociological data of the group. The importance of sociological factors in understanding the problems of aging has been underlined by many writers(6-9). Most frequently mentioned are disturbances of roles and the concept of the self

TABLE 2

	MARITAL STATUS			ECONOMIC STATUS		WORK		SOCIAL PARTICIPATION	
	M.	W.	S.	SATISFACTORY	UNSATISFACTORY	ACTIVE	INACTIVE	ACTIVE	INACTIVE
Female	27	25	3	50	5	41	14	9	46
Male	36	6	3	44	1	25	20	10	35
Total	63	31	6	94	6	66	34	19	81

¹ Read at the 118th annual meeting of The American Psychiatric Association, Toronto, Canada, May 7-11, 1962.

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resulting from aging, and the special effects which emerge from retirement or the deaths of friends and family members. Existing cultural reactions towards the aged, and other varied factors which tend

to isolate the elderly, result in a loss of self-esteem and prepare the ground for emotional upsets.

In this group, the analysis of marital status revealed two interesting facts. The first is that 63% were still married and living with their spouses. The second is the sharp predominance of widows over the number of widowers. This again seems to reflect the increased longevity of females compared to males. Six patients were either single or separated.

The inquiry into economic factors revealed that 94% of the group had no important problems in this area, while only 6 were living at a marginal level. This, of course, is a reflection of the specific patient selection which determines the referral to the private practitioner's office. No doubt a sampling of a geriatric outpatient population at any general hospital would support a different impression regarding the importance of economics. However, it is interesting to note that in no case in this series was economic difficulty blamed for the emotional illness of the patient. This certainly challenges the generally held impression that economic factors are of primary concern to the aged, particularly in relationship to the breakdown in health. It also seems to support the work of Wiggins and Schoeck (10), who surveyed aged members in the community rather than institutionalized aged. From their study, they stated that the "normal" aged are not characteristically dependent, inadequate, in financial need or senile.

The interest in work and social participation was enquired into, as this was taken to be one measure of the individual's capacity to deal with and find some gratification in

reality contacts. Thirty-four patients were unable to work at any level, either through forced retirement or illness of an incapacitating kind. The remaining 66 were able to work at some level, or hoped to do so at the time of their assessment and treatment. This then includes a number who were unemployed because of illness but who had not given up the hope or goal of working again. A striking finding was that 81 patients had a very restricted kind of social life, not as a function of their illness disturbance, but rather as a lifelong pattern. This finding seems too heavily weighted to be regarded merely as a coincidence. I suspect that this is really an important precipitant for emotional breakdown in the aged. When the time comes for the elderly to reallocate interests and activities, the socially isolated person has a more difficult and lonely task. The typical occurrence of the typical psychological regression in the aged person is also fostered and accelerated by diminished capacity to find external gratifications.

Existing Health Evaluation. The physical status of the patients revealed that 50 had well marked (rather than marginal) physical disease. Twenty percent showed cardiovascular disease, 18% various degenerative disorders and altogether they presented a representative cross-section of the medical disorders of the elderly. In some instances at least the organic disease and the attendant disability was the primary etiological consideration in the development of the psychiatric illness. In other cases, the organic deterioration was the major obstacle to recovery. However, except for such specific instances, the presence of complicating physical disease did not diminish the pos-

TABLE 3

	CARDIOVASCULAR DISEASES				DEGENERATIVE DISEASES				TOTAL NO.	MISCEL- LANEOUS *	OVERALL TOTAL	% TOTAL CASELOAD	% RATE RECOVERY
	HYPER- TENSION	HEART DIS.	HEMI- PLEGIA	TOTAL NO.	ARTHRI- TIS	PARKIN- SONISM	CATAR- ACTS	TOTAL NO.					
Female	6	2	4	12	5	2	4	11	3	26	47%	65%	
Male	3	4	1	8	2	3	2	7	9	24	53%	(58% overall) 45%	
Total	9	6	5	20	7	5	6	18	12	50	50%	(51% overall) 54.5%	

* Miscellaneous Includes: ulcer, 1; diabetes, 3; phlebitis, 1; cancer, 2; prostatism, 2; deafness, 2; anemia, 1.

sibility of improvement of the psychiatric disorder in other patients.

Etiological and Precipitating Factors. The incidence and analysis of the precipitating and apparent etiological factors are set forth (Table 4). This divides naturally into external environmental stresses and calamities, and especial individual vulnerabilities. The

conquered and/or prevented. This provides us with a basis for hope about the future. Retirement is also a potent factor in psychological disintegration. However, preventive measures in this area may well be in operation out of necessity before too long. Our previous naive phantasies about the benefits of early retirement from work are

TABLE 4

	SEPARATION PROBLEMS					PERSONAL ILLNESS						
	FAMILY ILLNESS	FAMILY DEATH	CHANGE OF RESIDENCE	MARRIAGE OF CHILD	INFECTION	OPERATION	MEDICAL INDUCED	LOSS OF FUNCTION	MISC.	RETIREMENT	FAMILY CONFLICT	PREV. PSYCH. ILLNESS
Female	11	16	3	3	2	2	2	5	0	11	11	29
Male	3	3	0	0	0	3	2	5	3	18	5	17
Total	14	19	3	3	2	5	4	10	3	29	16	46
Overall Total			39				24			29	16	46

latter are difficult to measure, but one sign was taken to be a previous psychiatric illness. This had occurred in 46 patients. Separation problems, threatened or real, and introduced by a death, illness or change of residence were described as a major precipitant in 39 patients. The dramatic or more insidious loss of vitality, energy and freedom of movement and action attending physical personal illness shattered the emotional equilibrium of 24 patients. Forced automatic retirement from the job or usual life work was given as the precipitant in 29 patients. Family conflict as a potent cause of breakdown occurred in 16 cases. A few patients presented multiple problems rather than a single etiological event.

Although it was difficult to assess the role of individual vulnerability, what did emerge clearly as critical environmental stresses were problems related to separation and death, to personal illness, retirement, and family conflicts. These issues have been described in other studies as the important sources of breakdown in the elderly. While the catastrophic impact of personal illness can not be eliminated in the given individual who is affected, the number of patients who will become disabled by the cardiovascular diseases, for example, may well shrink in the foreseeable future. This applies as well to other diseases which will be

rapidly disappearing. In many industries, this matter is now under active review, to reassess and postpone the retirement age in well and efficiently functioning workers. Ultimately, however, what society will have to provide and underwrite is a protected work program for the elderly citizen who is retired from the competitive industrial job, but who desires, needs, and can function at another job where competitive pressures are absent.

The chief motivations for the elderly worker are the need to work in order to maintain self-esteem, to maintain contacts with others, to find satisfaction in contributing, and in being regarded as a useful and functioning human being and a first-rate citizen of the community. Baruch(11) has noted that peaceful idleness can lead to anxiety, tension and atrophy.

The importance of family conflict in precipitating emotional illness in 16 patients is worth noting. It is an obviously nonsensical generalization which holds that elderly parents must live with their children, who have the duty and responsibility to care for them personally. Each case is an individual matter. Older persons are best housed with their own families providing that they can retain a place of independence and dignity in the family group. When their position is either that of an interfering domineering

elder, or a dependent childish irritant, then they themselves are not happy and they often produce friction and conflict in the family group as a whole.

As hard and fast attitudes and existing misconceptions are gradually broken down, there is fresh basis for hope and optimism. The therapeutic interpretation of the reversal of roles between parents and their children can guide some cases to the resolution of recurrent crises in the family setting and provide for the elderly a firmer anchorage to reality.

which follow from retirement and the interruption of habitual, reassuring, reality based work gratifications. In fact, one might say that old age is primarily concerned with the need to adjust to a variety of losses, environmental and personal, and the main restorative work is in the direction of retrenchment, reorganization of assets and the search for new ways to find acceptable meanings for life within the framework of reality. Depressive reactions were not the only pathological responses to such stresses. In some patients, the rapid crystallization of a

TABLE 5

	DEPRESSIVE REACTIONS					CHRONIC PARANOID SCHIZO- PHRENIA	NEUROSES OF LATE LIFE					SENILE REACTIONS			
	RECURRENT	INVOLUTIONAL	AGITATED	PARANOID	SIMPLE		ANXIETY	REACTIVE DEPRESSION	OBSESSIVE RUMINATIVE	PARANOID	MIXED	SIMPLE DET.	DEPRESSION	PARANOID	CHR. BRAIN SYNDROME
Female	8	3	7	2	16	3	3	4	1	2	1	2	2	1	1
Male	2	3	4	2	16	1	2	1	1	0	0	3	5	0	4
Total	10	6	11	4	32	4	5	5	2	2	1	5	7	1	5
Overall Total			63			4			15					18	

Primary Psychiatric Diagnosis. The table of primary psychiatric diagnoses (Table 5) utilizes the standard APA classification. Of 100 patients, 18 were senile, 4 were long standing schizophrenics who were also well advanced in age, 15 presented various neurotic reactions and 63% fell into the diagnostic category of the depressive reactions. The high proportion of depressions is not too surprising in the aged group as old age is predominantly concerned with the adjustment to losses and the increasing awareness of the nearness of death. The high diagnostic incidence of depressive reactions can be correlated with etiological factors already reported upon. The latter concerned the kind of stresses which are represented by the death of spouse, relatives and friends, the loss of strength and vitality associated with aging generally, and especially enhanced in the presence of debilitating, sensory depriving or immobilizing illness. To this was added the losses of self-esteem and confidence

chronic brain syndrome followed an environmental insult. In other patients, an earlier depressive reaction had been unrecognized and untreated and had rapidly progressed into an irreversible organic deterioration reaction. Prompt treatment of depressive reactions, even in the presence of organic cerebral deficit, can reverse the syndrome in an appreciable number of patients (1). Table 6 details the number of patients in this series who showed cerebral organic contaminants. Of 39 patients who varied from transient confusional reactions to the most severe mental deterioration states, 16 patients or 37.5% of the total showed recovery or marked improvement in response to treatment.

TABLE 6
Cerebral Organic Contaminants

	NO. OF CASES	RECOVERED	IMPROVED	% BETTER
Female	23	8	4	50%
Male	16	2	2	25%
Total	39	10	6	37.5%

Duration of Symptoms Prior to Referral.

An essential factor in the recoverability of the patient is often the length of time he has been sick. This is particularly important in the aged group because the resources for healing are diminished. Table 7 shows this in a striking way, as the response to therapy for those sick 6 months or less is in the range of 80%, whereas those sick over one year (39% of the group) showed a satisfactory response to therapy in only 25%.

TABLE 7

	UNDER 3 MTHS.	% OF TOTAL CASES	RECOVERED	IMPROVED	% BETTER
Female	17	30%	14	0	82%
Male	13	30%	10	1	84%
	UNDER 6 MTHS.	% OF TOTAL CASES	RECOVERED	IMPROVED	% BETTER
Female	29	40%	23	2	86%
Male	25	17%	19	0	76%
	OVER 12 MTHS.	% OF TOTAL CASES	RECOVERED	IMPROVED	% BETTER
Female	22	40%	2	3	22%
Male	17	40%	3	2	30%

Treatment Procedures. The aged patient deserves the fullest consideration in the application of treatment and remedial measures. This starts with a careful considered appraisal of the essential elements of the patient-environment disturbance. A medical, neurologic, psychiatric and social diagnosis is the basis of further action. The estimation of interpersonal interactions, especially within the family setting, is most important. The presentation by a patient of a hostile denial very often conceals the patient's plea for help and understanding which cannot be more directly brought to attention. The special features of the mourning reaction in the aged must be recalled else many missed and

masked depressions will go unattended. These features are 1) the relative absence of depression, 2) the presentation of a hostile affect, displaced from the deceased (to whom it is essentially felt), 3) the prominence of somatic symptomatology in a hypochondriacal setting.

The diagnostic evaluation has also to include the basic psychopathology and the extent and kind of regressive phenomena, and an estimation of the strengths and resources of both the patient and his natural environment. On the basis of this kind of diagnostic appraisal, the relative values of psychotherapy (supportive or interpretive), environmental manipulations, drug therapies, hospitalization, electroshock and other psychiatric therapies will emerge. Except for some modifications, all forms of psychiatric treatment are applicable to the aged group. Care must be exercised in the use of drugs as they are not as well tolerated as in the younger adult. EST can be used, if judicious caution is exercised, and the indications for a therapeutic response are strong. Here, age is literally not a contraindication. Psychotherapy is mainly supportive, and is aimed at helping the sick person face and deal with reality issues. Regressive effects in psychotherapy are sometimes unavoidable, and are sometimes desirable. This aspect should be estimated as a calculated risk. The achievement of insight is not a primary or necessary therapeutic goal in the elderly psychiatric patient(12). The majority of the patients responded to brief simple psychotherapeutic management aimed at levels which included not only the presenting reality problems, but also basic personality needs as recognized by the therapist. Surprising results could be achieved in two to six visits.

In this group, the drugs used were anti-depressant agents, phenothiazines, androgens, insulin therapy, hypnotics. Cerebral stimulants were found to have little value and barbiturate use was minimal. Other drugs were used as specifically indicated, as digitalis, anti-parkinsonian agents, *etc.* EST (19 patients) was always done in a hospital setting with maximum precautionary measures. Muscle relaxants and pentothal were regularly used. Hospitalization itself proved to be a valuable therapeutic meas-

ure—providing a protected supportive environment, free from conflict and the anxiety of upset relatives. The average hospitalization lasted between 2 to 4 weeks and was always carried out in a psychiatric ward setting in a general hospital. In every instance multiple approaches were utilized in a psychotherapeutic setting, but in the review of the material, an attempt was made to evaluate critically the main therapeutic technique, and the results are set forth in Table 8.

TABLE 8

	DRUGS MAINLY	E.S.T. MAINLY	HOSPITAL- IZATION	PSYCHO- THERAPY	COMMIT- MENT
Female	14	12	13	6	8
Male	18	7	4	1	9
Total	32	19	17	7	17

It is interesting to note that so few males were hospitalized or were able to become involved in a psychotherapeutic relationship in comparison to the larger number of women so treated. The impression I have is that the female aged sick complained more and received more family support than the men, and that a helping transference relationship could more readily be established. Countertransference reactions must receive consideration. The approach of the therapist to the aged patient carries reflections of his own feelings to his parents and may include his personal aversion to aging, decay and nearness of death. Dealing with the chronic sick is also a challenge to the physician's omnipotence phantasies. Such countertransference phenomena interfere with treatment and with its successful outcome. As a matter of fact, the change of feeling in the therapist from pessimism to hope in treating the aged is the most important factor in the progress of treatment for the aged.

Overall Outcome. In the reported group, the overall recovery or improved rate came to 55%, somewhat higher in the female group (58%) than for the men (51%) (Table 9).

This response to treatment in the psychiatric disorders of the aged surely supports optimism in the approach to such problems.

TABLE 9

	TOTAL NO. OF CASES	RECOVERED	IMPROVED	BETTER
Female	55	27	5	58%
Male	45	19	4	51%
Total	100	46	9	55%

From the review of these patients, it is clear that physical disease and cerebral organic contaminants do not, per se, preclude a favorable response to treatment. The most important factors related to outcome appear to be the length of time before appropriate treatment is begun and the interest of the therapist in the therapeutic task. The treatment failures (45 cases) were reviewed and the data summarized (Table 10).

TABLE 10

Analysis of Treatment Failures

Of 45 failures—13 patients did not follow treatment.
 17 patients were committed to institutional care.
 15 cases were senile deterioration states.
 20 cases had marked cerebral organicity.
 24 cases were over age 70.
 28 cases were of 1 year + onset to indefinite.
 8 cases had severe disabilities, cancer, severe parkinsonism, blindness, etc.

Some of these patients seem to present irreversible conditions, but others are definitely salvageable by better, more skillful use of existing techniques.

SUMMARY

The review and analysis of 100 patients aged 60 and older, examined and treated in private psychiatric practice, has served to clarify a number of important questions regarding geriatric patients. An impoverished social life and retirement from the job often set the stage for the development of illness. Forty-six percent presented a special emotional vulnerability. The reaction to separation threats or realities, retirement, personal illness and family conflicts emerged as critical environmental stresses. Fifty percent presented physical diseases, primarily cardiovascular or degenerative in nature. Cere-

bral organic contaminants were present in 39%. Although these factors tended to reduce the recovery rate, they did not prevent recovery in many patients. The predominant psychiatric diagnosis was the depressive group of reactions. In the consideration of this particular group, the possibilities for improvement are excellent, especially when the pretreatment illness period is not protracted. Many complicating factors which now retard treatment or which in the first instance lead to breakdown are potentially preventable. This will occur through progress and advances in medical knowledge, through greater understanding of the problems of the aged person, and ultimately through the introduction of restorative interventions at the community level.

Treatment measures, although empiric in nature, resulted in an overall 55% recovery or improved rate. The older patient can be treated with all the psychiatric techniques now available. When treatment is pursued energetically and with optimism, reversal of serious psychiatric illness in the aged person results, and chronic illness and deterioration is prevented, or postponed. The willingness of the therapist to become involved in the problem, to remain interested, and to search for answers to unknown processes, is critical to the success or failure of treatment in meeting psychiatric illnesses of the aged.

Community resources must be developed in imaginative ways. Active treatment centers for chronic illness are an essential need, to provide hospital care and day center care.

The development of psychiatric units in general hospitals must be supported. The six weeks in, six weeks out program for geriatric patients described by Delargy(13) is an intriguing therapeutic concept. Development of home care programs, the greater use of visiting homemakers and the development of post-retirement employment facilities can beneficially influence the medical, social and psychiatric aspects of the aging process.

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THE EFFECT OF TRANQUILLIZERS ON SOME ASPECTS OF THE TREATMENT OF LONG STAY PATIENTS

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This paper examines the effect of tranquillizers on the discharge and re-admission of long stay patients by means of a retrospective study of a whole hospital from 1952, when tranquillizers were first used, to 1958. Three types of ward were also examined retrospectively to show any changes of ward behaviour which might be related to the advent of tranquillizers.

At the time of the study tranquillizers were listed as: 1. Rauwolfia and reserpine derivatives—Serpasil, Harmonyl; 2. Phenothiazines—chlorpromazine (Largactil), promazine (Sparine), acetyl promazine (Nontensil), prochlorperazine (Stemetil), trifluoperazine (Stelazine), triflupromazine (Vespral), pecazine, mepazine (Pacatal), thioropiazate dehydrochloride (Dartalan), perphenazine (Fentazin).

Method. Every long stay patient resident

in Runwell Hospital at any time between 1st January, 1952 and 31st December, 1958 was traced and indexed. A long stay patient was defined as one with a stay exceeding 2 years. The evidence for using a period of stay of this character as a measure of chronicity has recently been reviewed by Brown(3). The long stay patients were divided into two groups—those treated at any time with tranquillizers as listed above and those not so treated.

Three long stay female wards were studied retrospectively by counts from ward report books using a method previously described(4, 7). The prescription of drugs on these wards was obtained from ward drug books which present a monthly summary of prescriptions. The wards were 1) "disturbed"—where behaviour problems and disturbed, combative patients were usually

TABLE 1
Long Stay In-Patients and Discharges Treated With
Tranquillizers (a) By Year of Admission

		RECEIVED TRANQUILLIZERS			NO TRANQUILLIZERS		
		DISCHARGED	NOT DISCHARGED	TOTAL	DISCHARGED	NOT DISCHARGED	TOTAL
MALES	-1939	0 (0%)	37 (100%)	37	3 (2%)	138 (98%)	141
	1940-49	1 (3%)	37 (97%)	38	12 (14%)	67 (86%)	79*
	1950-	13 (17%)	63 (83%)	76	18 (20%)	75 (80%)	93
	Total	14 (9%)	137 (91%)	151	33 (10%)	280 (90%)	313
FEMALES	-1939	0 (0%)	54 (100%)	54	4 (2%)	230 (98%)	234
	1940-49	2 (4%)	52 (96%)	54	16 (11%)	135 (89%)	151
	1950-	14 (14%)	88 (86%)	102	38 (22%)	135 (78%)	173
	Total	16 (8%)	194 (92%)	210	58 (14%)	500 (86%)	558*

* > 2 x SE

¹ Runwell Hospital, Nr. Wickford, Essex, England.

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treated; 2) "non-disturbed"—a middle grade ward with patients most often occupied in occupational therapy and to some extent requiring supervision; and 3) "hospital adjusted"—where patients retained a virtually self-governing community and where many hospital "workers" resided.

Patients Chosen for Treatment. Table 1 shows, to accepted standards of statistical

TABLE 1
Long Stay In-Patients and Discharges Treated With
Tranquillizers (b) By "Mobility"

	MALES					
	RECEIVED TRANQUILLIZERS			NO TRANQUILLIZERS		
	DISCHARGED	NOT DISCHARGED	TOTAL	DISCHARGED	NOT DISCHARGED	TOTAL
Mobile	11 (20%)	45 (80%)	56	12 (30%)	29 (70%)	41
Static	3 (3%)	92 (97%)	95	21 (7%)	251 (93%)	272
Total	14 (9%)	137 (91%)	151	33 (10%)	280 (90%)	313
FEMALES						
Mobile	9 (14%)	58 (86%)	67	30 (40%)	45 (60%)	75 **
Static	7 (5%)	136 (95%)	143	28 (6%)	455 (94%)	483
Total	16 (8%)	194 (92%)	210	58 (14%)	500 (86%)	558 *

* > 2 x SE

** > 3 x SE

TABLE 1
Long Stay In-Patients and Discharges Treated With
Tranquillizers (c) By Age in 1952

		RECEIVED TRANQUILLIZERS			NO TRANQUILLIZERS		
		DISCHARGED	NOT DISCHARGED	TOTAL	DISCHARGED	NOT DISCHARGED	TOTAL
MALES	-40	8 (9%)	77 (91%)	85	14 (24%)	44 (76%)	58*
	41-60	5 (10%)	46 (90%)	51	18 (14%)	113 (86%)	131
	61-	1 (7%)	14 (93%)	15	1 (1%)	123 (99%)	124
	Total	14 (9%)	137 (91%)	151	33 (10%)	280 (90%)	313
FEMALES	-40	10 (14%)	59 (86%)	69	17 (40%)	25 (60%)	42*
	41-60	6 (7%)	80 (93%)	86	23 (13%)	159 (87%)	182
	61-	0 (0%)	55 (100%)	55	18 (5%)	316 (95%)	334*
	Total	16 (8%)	194 (92%)	210	58 (14%)	500 (86%)	558

* > 2 x SE

TABLE 1
Long Stay In-Patients and Discharges Treated With
Tranquillizers (d) By Diagnosis

TRANQUILLIZERS (a) By Diagnosis						
	RECEIVED TRANQUILLIZERS			NO TRANQUILLIZERS		
	DISCHARGED	NOT	TOTAL	DISCHARGED	NOT	TOTAL
		DISCHARGED			DISCHARGED	
MALES						
Schizophrenias	8 (7%)	104 (93%)	112	16 (11%)	134 (89%)	150
Paranoid States	0 (0%)	6 (100%)	6	4 (16%)	22 (84%)	26 *
Affective Disorders	4 (33%)	8 (67%)	12	5 (13%)	35 (87%)	40
Epilepsy	0 (0%)	5 (100%)	5	2 (9%)	21 (91%)	23
Organic Dementia	1 (10%)	10 (90%)	11	2 (4%)	47 (96%)	49
Others	1 (20%)	4 (80%)	5	4 (16%)	21 (84%)	25
Total	14 (9%)	137 (91%)	151	33 (10%)	280 (90%)	313
FEMALES						
Schizophrenias	8 (8%)	97 (92%)	105	21 (12%)	162 (88%)	183
Paranoid States	2 (8%)	23 (92%)	25	11 (10%)	105 (90%)	116
Affective Disorders	4 (10%)	34 (90%)	38	15 (21%)	55 (79%)	70
Epilepsy	0 (0%)	3 (100%)	3	0 (0%)	30 (100%)	30
Organic Dementia	0 (0%)	26 (100%)	26	4 (3%)	131 (97%)	135
Others	2 (15%)	11 (85%)	13	7 (29%)	17 (71%)	24
Total	16 (8%)	194 (92%)	210	58 (14%)	500 (86%)	558

* > 2 x SE

significance, that drug treated long stay patients are those who were: 1. Most recently admitted rather than the longest term admissions (1a—See "Total" columns). 2. "Mobile" (in the sense that they had history of at least one previous admission and discharge at Runwell Hospital before the current 2-year stay) rather than "static" (1b—See "Total" columns). 3. Under 50 years of age in Jan. 1952, rather than over (or more generally—younger rather than older) (1c—See "Total" columns). 4. Suffering from schizophrenia and not from epilepsy or organic dementia (aged 65 or over on admission) regardless of sex. In addition females with mania were tranquillized while males with sub-normality and females with paranoid states were not so treated (1d—See "Totals" column).

Recent admission, "mobility," and youth are shown to be good prognostic factors, as far as discharge is concerned, regardless of treatment (Table 1). In general, therefore, the "best" patients, as far as prospects of discharge are concerned, are chosen for treatment.

Effects of Treatment: 1. Prospects of Discharge of Long Stay Patients. A higher

proportion of non-tranquillized female long stay patients was ultimately discharged than tranquillized patients while there were no differences between the male groups as a whole (Table 1). On the other hand, it has been shown that the tranquillized groups were more favourable in outlook than the non-tranquillized group.

In more detail it is seen that more non-tranquillized long stay males were discharged from the group admitted 1940-49 (Table 1a) and more non-tranquillized long stay males were discharged from the under 40 age group (Table 1c). The excess of non-tranquillized females discharged is from the "mobile" group rather than the "static" (Table 1b); and from both under 40's and over 60's (Table 1c).

Diagnosis shows no difference between the groups (Table 1d).

2. *Re-admission.* Recent evidence (6, 9) suggests that maintenance tranquillizers fail to prevent re-admission. This study presents no information on this aspect and is only concerned with the results of intramural hospital treatment.

As has been reported from other hospitals (3) there is at Runwell a significant rise in the rate of re-admission regardless of treat-

TABLE 2
Re-Admission to Runwell of All Long Stay Patients
Discharged During 1952-'54 and 1955-'58

YEAR OF DISCHARGE	MALES			FEMALES			BOTH SEXES		
	'52-'54	'55-'58	TOTAL MALES	'52-'54	'55-'58	TOTAL FEMALES	'52-'54	'55-'58	TOTAL BOTH SEXES
Discharged—not re-admitted	16	20	36	25	33	58	41	53	94
Discharged—re-admitted	1	9	10	4	12	16	5	21	26
Totals	17	29	46	29	45	74	46	74	120

For $n=1$: $\chi^2=3.85$;
 $p<0.05$

For $n=1$: $\chi^2=3.8$
 $p<0.05$

For $n=1$: $\chi^2=5$
 $p<0.05$

TABLE 3
Re-Admission of Long Stay Patients Treated With
Tranquillizers and Discharged After 1955

	MALES			FEMALES		
	TRANQUILLIZERS	NO TRANQUILLIZERS	TOTAL	TRANQUILLIZERS	NO TRANQUILLIZERS	TOTAL
Not re-admitted	8	12	20	12	21	33
Re-admitted	6	3	9	4	8	12
Total	14	15	29	16	29	45

$n=1$: $\chi^2<0.4$: $p>0.5$

$n=1$: $\chi^2<0.04$: $p>0.8$

ment, in patients discharged between 1955 and 1958 as compared with those discharged between 1952 and 1954 (Table 2).

Comparing those discharged after drugs with non-tranquillized patients discharged in the later period (1955-58) when most tranquillized patients were discharged (Table 3) there is no difference in re-admission rate between the two groups. The rise in re-admissions is not therefore due to tranquilizers, per se, while neither do tranquilizers in hospital prevent re-admission.

3. Ward Behaviour. Unfortunately, the ward reports from 1952-54, inclusive, could not be traced for the "disturbed" ward: nevertheless, the pattern from the start of tranquillization can be seen (Table 4). Emergency and regular sedation drops as tranquilizers are prescribed to numbers of patients never previously sedated. ECT continues to be used during the period studied. The numbers of escapes, casualties, reports of noise, and patients in bed appear to fall. Reports of uncertainty, restlessness and overactivity rise, possibly with destructiveness. Smashing, incontinence and impulsiveness are little affected. In the non-disturbed ward again regular sedation falls, while again tranquillization rises to numbers never before sedated. The proportion on tranquilizers is less than on the disturbed ward. Apart from this, virtually no trends are seen. On the "hospital adjusted" ward the picture is similar, but fewest of the cases are tranquillized. There is a slight rise in the numbers on village parole, and a definite rise in the numbers of discharged patients, reflecting the use of this ward for medium and short stay patients as well as the long stay group in later years.

As far as ward behaviour here is concerned, in summary, "disturbance" is not affected in a clear way, but increased "uncertainty" and restlessness, possibly due to akathisia are seen. Nevertheless, "disturbance" invites treatment, while the best adjusted wards are least treated. When tranquilizers are used they replace other sedatives, but involve more patients than those previously sedated.

DISCUSSION

Brill and Patton (1, 2) have studied New York State mental hospitals, presenting conclusions which are somewhat at variance with those above and claiming that a reduction in hospital population has been due to tranquilizers.

A difference in results in itself would not be surprising as Kramer and Pollack (5) have shown that the pattern of care in New York differs even from most other parts of the United States. Certainly, many of the clearly presented tables in this paper, e.g., regarding restraint and seclusion, show practise and trends widely different from those established in Britain.

Shepherd, *et al.* (8), studied hospital statistics from another British hospital, and concluded that the "impact of pharmacotherapy proved to be very small." The proportion of patients with affective disorders seen by this hospital between 1954 and 1957 and treated with tranquilizers was 21% and the proportion of discharges with affective disorders who received tranquilizers was 19%. The figures for schizophrenia were 39% and 32% respectively; for organic, senile and epileptic states, 16% and 14% and for neurotics and psychopaths 25% and 24%. These figures and findings are very similar to those presented above.

Linn (6) in another American hospital shows tranquillized admissions in comparable years are discharged in similar proportions to non-tranquillized cases whether or not hyperactive. The advent of tranquilizers was, however, associated with an increased chance of discharge for all cases attributed to staff optimism. In the hospital studied by Linn, there was a decrease in provocative behaviour after tranquilizers were introduced.

In conclusion, it should be stressed that their clinical administration shows tranquilizers to be potent pharmacological agents. This paper does not set out to dispute this fact, but merely presents evidence to show that their current administration in one hospital (which, however, there is no reason to believe is therapeutically atypical in the administration and dosage of these drugs) does not produce better results in terms of discharge, *etc.*,

TABLE 4
Treatment and Behaviour on Female Wards

With (a) Disturbed Patients
(b) Non-Disturbed Patients
(c) Hospital Adjusted Patients

	(a)				(b)				(c)									
	'55	'56	'57	'58	'52	'53	'54	'55	'56	'57	'58	'52	'53	'54	'55	'56	'57	'58
Total Residents	40	40	40	40	44	45	45	45	45	45	45	54	55	55	55	56	56	56
TREATMENTS																		
Average number of patients tranquilized	3.7	13	14.3	15.1	0	0	0	0	5	10	11	0	0	0	0.3	2	3	4
Average number of patients on regular sedation	7.8	6.3	5.5	3.4	2	4	6	6	1	1	1	3	4	5	4	5	5	3
Total	11.5	19.3	19.8	18.5	2	4	6	6	6	11	12	3	4	5	4.3	7	8	7
S.O.S. Doses :																		
Paraldehyde	207	149	147	133	7	1	10	15	2	3	0	1	7	8	1	1	0	5
Barbiturates	24	18	38	17	0	0	0	0	0	0	0	30	35	10	20	21	8	18
Total	231	167	185	150	7	1	10	15	2	3	0	31	42	18	21	22	8	23
Physical Treatment																		
E.C.T.'s.	207	294	247	188	6	0	35	60	24	10	0	12	17	17	10	2	7	0
Leptazol Convulsions	8	15	2	5	0	0	0	9	0	2	0	0	2	7	0	0	0	0
Total	215	309	249	193	6	0	35	69	24	12	0	12	19	24	10	2	7	0
INCIDENTS																		
Escapes	7	6	5	0	0	7	2	1	1	5	0	0	0	0	0	0	0	0
Wet and dirty	797	918	324	713	0	4	3	2	17	1	2	1	0	0	0	0	0	0
Casualties	55	39	34	31	3	11	15	9	9	5	6	6	6	4	2	5	2	4
Uncertain	74	104	151	241	2	5	34	27	37	19	19	21	6	18	4	2	10	3
Smashing (crock, windows, etc.)	49	32	52	52	0	5	5	5	2	0	3	1	1	1	0	0	1	0
Destructive (clothing, furniture, etc.)	7	2	12	12	0	0	5	1	1	1	7	1	0	0	0	0	0	0
Impulsive	135	112	129	149	0	3	11	6	8	5	2	3	1	1	0	0	1	2
Noisy	150	59	64	82	9	24	40	64	11	13	10	11	13	4	4	3	14	1
Restless, agitated, overactive	57	96	91	239	12	27	64	79	38	46	62	23	12	2	3	11	4	12

than those methods of treatment—mainly nursing care and occupation in the long stay group—against which they are in fact compared, nor a marked change in ward behaviour in relation to methods of treatment previously and less extensively employed.

SUMMARY

A retrospective study of a long stay population from 1952-58 shows the patients chosen for tranquillizers in the long stay group are those with the best outlook as far as discharge is concerned. Nevertheless, tranquillized long stay patients when compared with non-tranquillized patients do not have a better prospect of discharge and may indeed to some extent have a lesser prospect. Hospital treatment with tranquillizers does not alter the chance of re-admission of discharged long stay patients. Ward behaviour, apart from some aspects of "disturbance," is little influenced by tranquillizers which are themselves possibly associated with the introduction of

new symptoms. Disturbed wards invite treatment and on them, as on other wards, tranquillizers have replaced other sedatives, with the numbers of patients ultimately treated exceeding the numbers previously sedated.

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TEACHING PSYCHIATRY IN A MILITARY SETTING¹

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Psychiatric education in the military setting is developing at a rapid pace, but too often without thoughtful planning of the curriculum.

The goal of a military residency program should be to prepare a superior general psychiatrist who is additionally equipped to handle problems specific to the military. The military psychiatrist is confronted with a wide range of problems. He faces such varied challenges as the control of an acutely disturbed young fighting man, aiding a responsible officer numbed by depression, giving medical care to ill dependent and courtesy treatment of a foreign high official.

Heightening competition for residency candidates, expanding military needs and increasing public and military awareness of psychiatric services emphasize the need for attention to armed service residency programs. The inherent advantages and assets of the military setting must be fully employed and deficiencies must be recognized and faced. Some features of planning and maintaining a curriculum at the U. S. Naval Hospital, Oakland, are presented to serve others as a guide and to encourage a critical appraisal of the military residency program.

Deficiencies Inherent in a Military Residency Program. The most frequently voiced complaint, that the patient population is rigidly restricted in age and sex, is misleading. This charge ignores the vital services which military psychiatry offers to veterans, senior officers, civilian employees, dependents, and foreign military personnel.

Certain deficiencies, although less apparent, cannot be ignored: the long term care of chronically ill psychiatric patients is not generally undertaken in the active service hospital. The required administrative duties decrease the time available for teaching and clinical care, and the system of periodic

transfer of medical officers removes members of the teaching staff to other duty stations. Research scientists have been relatively unavailable for teaching, consultation, or assistance to residents and staff. Finally, unexpected additional duties may encroach on the resident's time for learning.

Advantages Inherent in a Military Residency Program. On the other hand, certain advantages for psychiatric education are contained in the military structure. Navy psychiatric facilities are integral parts of general hospitals, rather than isolated units. The psychiatrist is therefore responsible for the patient's total care, but has available for referral or consultation specialists in other branches of medicine. Similarly, the psychiatric resident has an opportunity in residency training to develop skill as a consultant to other physicians. The military training hospitals are well located near large cities which have outstanding professional communities. Thus professional exchange is facilitated between the military physician and his civilian colleagues.

The military psychiatrist has an unusual freedom from the incidental limitations to treatment. He is empowered to admit a patient to the hospital at any time without compromise to his medical decision by such factors as hospital cost, risk to the patient's employment or loss of his wages. Consultations, psychological testing, additional laboratory tests and collaborative social service interviewing of the family are available without additional charge to the patient and provide multi-dimensional information for the psychiatrist. A follow-up of the patient is often possible throughout his tenure of duty. In the best tradition of teaching hospitals, patients with interesting findings are presented in teaching rounds and conferences for the residents.

The psychiatrist in a military setting enjoys a particular opportunity which is relatively infrequent in civilian residencies. He often can observe the very early manifesta-

¹ The opinions or assertions contained herein are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the Naval Service at large.

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tions of a psychiatric disorder. Pre-induction screening and annual physical examinations insure that all active duty personnel remain free of the disqualifying symptoms of mental illness at enlistment and each year thereafter; the military structure demands a high degree of job performance, social conformity, and military obedience; and even a slight deviance provokes medical attention long before such care might be sought or required in civilian life. Within the armed forces referral to a psychiatrist is immediate and mandatory at the discretion of the attending medical officer. Thus the psychiatrist sees patients much more promptly than in any non-military setting where detection and referral are not so quickly accomplished.

Similarly, the opportunity afforded the military psychiatrist to observe individuals under stress has few parallels in civilian life. These stresses range from the obvious hazards of military training or combat and the untimely disruption of families to the more subtle demands upon a young serviceman with problems of maturation and emancipation from parents.

Certain Navy programs, such as Operation Deep Freeze, submarine duty, space explorations and top secret projects, require preselection evaluation of officers, enlisted men and civilian participants. In this way the Navy psychiatrist examines large numbers of emotionally healthy individuals and attempts to match men with various relatively healthy personalities to exacting and unusual tasks. For example, he interviews prospective Annapolis midshipmen, screens men to be entrusted with defense secrets, eliminates those with unsuitable personalities for wintering-over in the polar stations, and evaluates men embarking on dangerous or arduous duty. He learns that the enforced confinement of small group living, as at the polar stations, is better endured by the rather isolated introvert than by the "hail, hearty and well met" extrovert, who eventually antagonizes others. This contradiction to the premium awarded "popularity" by contemporary society is a valuable lesson to the young psychiatrist.

The Educational Program. The direction and coordination of the educational program is paramount. It is essential that a

senior medical officer be designated to such duty, full time, to insure leadership, mesh many individual efforts, and maintain high quality of teaching. In addition, he is also responsible for achieving a philosophy of teaching; therefore, the director should be selected with great care. He must work diligently to fulfill these requirements, and perhaps most importantly to infuse by example a continuing dedication to the program, keen intellectual interest, and pride in professional achievement. To provide substance to the total program, the junior staff must willingly accept the added responsibility of teaching the resident staff. The Berry Plan³ has made possible a junior staff of high qualification who have been trained at outstanding civilian centers. The resident thereby has a close working contact with staff psychiatrists who represent various approaches rather than the monolithic point of view of some institutions. As in any academic setting, the junior staff members are best entrusted with planning and executing portions of the curriculum both for the advantage to the educational program and for their own development as teachers. They perform a prime function of individual supervision of residents. By their professional sophistication, interest and proficiency they enhance teaching discussions and help enforce a precision of thinking for beginning students. In the military residency program there is often a limitation of senior psychiatric staff. This deficiency can be overcome by the use of senior civilian consultants if care is exercised in their selection and assignment.

The limited size of the consultant staff forbids the inclusion of individuals who are not enthusiastic teachers. Fortunately there are eminent psychiatrists who out of loyalty to the Armed Forces are willing to make additional sacrifices to be consultants to the military hospital. These consultants complement staff teaching of general psychiatry, psychotherapy and psychoanalytic principles, psychopharmacology, clinical neurology and neuroanatomy and provide teaching in neuropathology, forensic psychiatry and those highly specialized topics not

³ The Berry Plan has permitted the delay in calls to duty for selected individuals until completion of civilian residency.

generally taught by the regular staff.

Funds are also available for single consulting visits by guest speakers, to augment the required program through lectures on special topics germane to psychiatry, for example, such diverse topics as the intellectual climate in which psychoanalysis was formed and the analogies between high speed computers and brain mechanisms.

The department's own teaching can be supplemented by the various lectures and seminars at nearby teaching institutions. Designated staff arrange invitations and promulgate announcements. Residents and staff are encouraged to attend and are allowed time from regular duties for this purpose.

Individual supervision is the most important element in teaching psychotherapy and the understanding of intrapsychic process. Thus, supervision is the prime teaching responsibility for the staff. Residents attend individual tutorial sessions weekly to discuss in detail their individual therapy of patients in order to become progressively more skillful in psychotherapeutic interviewing. Periodic case presentations, continuous case seminars and treatment reviews further broaden the resident's experience in psychotherapy.

There is little opportunity for the psychiatric resident in the Navy to participate in research full time. However, funds for modest research efforts, primarily clinical, are available for residents and staff alike. Each resident is expected to complete at least one research project during his 3-year training period. In addition residents occasionally participate as clinicians in Navy-wide studies such as the present investigation of small group behavior under stress or isolation. Residents as well as staff are included in certain studies undertaken within the department, *e.g.*, an investigative study within the Child Guidance Clinic of certain problems of service families, a drug study of hospitalized depressed patients, and an attempt to correlate certain EEG abnormalities with specific behavior patterns.

Building a Residency Program at Oak Knoll. The Neuropsychiatric Service of the U. S. Naval Hospital, Oakland, Calif., may serve as a good example of the practical

implementation of some of these principles.

Faced with increasing competition for the limited number of candidates for residency, the psychiatric service must make a determined effort to offer a forceful educational program that fulfills the resident's needs and emphasizes learning rather than service. The resident must be carefully distinguished from the staff, so that each can be charged with specific responsibilities. Entitled to the systematic presentation of specified areas of psychiatric knowledge, the resident's assigned duties should not preclude his attendance at teaching sessions. Instruction must be provided and the needed time insured.

The primary interest of the superior officers at Oak Knoll has been supported by the Head, Neuropsychiatric Branch, Bureau of Medicine and Surgery, in the assignments of teaching staff, the provision of educational funds, and in continuing encouragement. There has been an effort to gather a staff of teachers and of residents who prefer a formalized academic program within the military setting. By publicizing this intent it is hoped to discourage the uninterested and attract a select group within or entering the service who share these interests. Prior screening within the department and subsequent selection by the Bureau has tended to accumulate just such a professional cadre.

The senior psychiatrists at Oak Knoll have achieved maximal use of this increased staff by including teaching as a primary duty and by allocating adequate times for both supervisory and didactic teaching. All staff are assigned some teaching responsibility, and a few selected individuals are given greater educational duties, *e.g.*, one medical officer, previously a junior member from a university residency faculty, was designated a full time teacher and supervisor during his tenure at Oak Knoll. The officer in charge of training, after careful assessment, selects the individual staff for each of the varied teaching tasks. These range from the supervision of individual residents to lectures to student corpsmen.

Only through long term intensive treatment of a patient can the resident experience the practice of psychotherapy, a

unique training that can be gained in no other way.

Individual supervision of residents is limited to those staff who have completed formal training. These supervisors are paired with residents for a fixed period of time and must submit regular reports to the director of training. These evaluations provide information essential to the re-assignment of subsequent supervisors. Thus residents are exposed to differing approaches to psychotherapy but continuity is maintained. This continuity in supervision is a requisite to the learning of individual long term intensive psychotherapy.

Patients selected for outpatient psychotherapy are screened to insure good therapeutic candidates for whom long term attendance is possible before assignment to residents. As residents usually continue treating these few selected patients throughout their residency training, treatment time and supervision are allotted throughout each resident's individual assignments and rotations.

It must be recognized that certain necessary experiences can be acquired in the service residency only through affiliation with other institutions. In our program residents spend a part of their second year at the Napa State Hospital, where they can observe an extremely wide variety of psychiatric and other medical problems in a population of over 5,000 patients. There, residents care for patients with chronic psychiatric illnesses and receive additional instruction in the use of somatic therapies. The affiliation in the third year of residency consists of half-time attendance at the Berkeley State Mental Hygiene Clinic. There, residents obtain instruction in the evaluation and treatment of children and follow children in treatment under continuing supervision through a 9-month period.

Like these affiliations and participation in seminars and meetings at local centers, attendance at national meetings and specialty conventions is an important part of continuing medical education at all levels. Limited funds for such attendance require that doctors attend in rotation distant meetings of their choice. Each then reports to the entire group upon return. For local meetings interested department members

often attend as a group.

A close and active reciprocal liaison with nearby medical centers is important to the service teaching center. A wider professional acquaintance, knowledge of community facilities, awareness of specific advanced studies, and an opportunity for increased exchange is afforded the residents and teaching staff. The importance of such a liaison is fully recognized by the responsible senior officers of the Navy. Department staff members offered an appointment to the clinical faculty of the nearby medical school are permitted to accept such appointments and to devote one morning a week teaching senior medical students. In return university clinicians, teachers, and research scientists consent to lecturing or consulting at Oak Knoll. This liaison between the medical school and the naval hospital extends as well to the exchange of neuropathic and anatomical specimens, educational films and invitations to special meetings and lectures.

In our experience the expenditure of added effort and attention to the many details of a superior teaching program has been richly rewarding. The staff has responded to this professional stimulation with increased interest and enthusiasm. Morale is high. The residency program is attracting more and more applicants. The Department's other prime responsibility, patient care, has been strengthened rather than weakened by this attention to the Department's teaching commitment.

Thus, the accepted principle that patient care is improved in a center when medical education takes place is as true in the military hospital as in the civilian.

SUMMARY

Medical education in the military setting requires sound principles of modern teaching. The planning and curriculum of the residency in psychiatry at the U. S. Naval Hospital, Oakland, Calif., are reviewed to encourage a critical appraisal of such programs and to invite attention from non-military medical educators.

Deficiencies to be overcome include the encroachment of administrative duties on the resident's time and little experience in long term care of the chronically ill.

The full utilization of certain inherent features, such as freedom from some economic restrictions and participation in uncommon opportunities, provides an advantage over the non-military residency.

The use of consultants, responsibility for the educational program, and professional liaisons require specific attention.

Improvements recognized by the authors are presented.

ABSTRACTS

STREPHOSYMBOLIA IN CHILDREN WITH NEUROPSYCHIATRIC DISORDERS

ALEXANDER MARKS, M.D., AND JOHN C. SAUNDERS, M.D.¹

*Certain children manifest disorder in language development, a syndrome that has been described as congenital word blindness(1), specific reading disability, bradylexia, development dyslexia, visual agnosia and strephosymbolia. Strephosymbolia, the term we prefer, is a syndrome of difficulty in learning to recall a word with sufficient accuracy to recognize it, as in reading, or to reproduce it as in writing. It occurs independently of a child's intelligence.

This disorder of perception results in each object appearing as a mirrored reversal or inversion; also, there is an awareness of stimuli without meaning. Spontaneous mirror writing is an early sign of the disorder. Strephosymbolia commonly appears in children under five and usually disappears before school age. Failure to progress in reading and writing may indicate strephosymbolia.

Strephosymbolia occurs in delinquent and schizophrenic children as well as in normals. We decided to study the incidence in children with neuropsychiatric disorders for further insight into the process. We studied 19 childhood schizophrenics and 20 children with primary behavior disorders (6 girls and 33 boys, ages 6 to 13). Each child was presented with a blank piece of paper and a pencil and was asked to print his name. Next, the following words were dictated and he was asked to write them in a column beginning at the left margin of the page: cat, dog, boy, man, see. The child who failed to write to dictation was instructed by spelling the word, letter by letter, and if the child could not do this, he was given a printed card with the previously dictated words for copying.

After this dextrad writing form the child

was asked to repeat the above, initiated from the right margin of the page to attempt to induce mirror writing which would indicate latent strephosymbolia. Finally, he was asked to repeat the whole test using the opposite hand to his preferred one. Children who could neither spell nor write the alphabet were given a card with the letters, b d p q m w n u t f g to copy.

Two or more reversed symbols in any phase of the test were considered indicative of strephosymbolia. Further testing, however, is essential to determine if this criterion is valid in children with neuropsychiatric disorders. Of 6 left-handed children, 2 could spell, 1 could not spell, but could write the alphabet and 3 could neither spell nor write the alphabet. Of 33 right-handed children, 18 could spell, 9 could not spell but could write the alphabet and 6 could neither spell nor write.

From this preliminary study of 39 children with neuropsychiatric disorders, we found 3 of 19 or an incidence of 16% of spontaneous mirror writers in schizophrenia and in the primary behavior disorders, 2 of 20 or an incidence of 10%. The incidence of induced mirror writers (latent strephosymbolia) was 8 of 19 or 42%, and 14 of 19 or 73% respectively for the schizophrenia and primary behavior disorders. None who were able to spell to dictation were spontaneous mirror writers.

Many theories attempt to explain the etiology of strephosymbolia and there are data that may be interpreted as supporting each. The psychoanalytical theory relies on 3 factors for characterizations: fear, avoidance of looking, and hostility primarily toward the same sex parent and failure to identify with the same sex parent(2). The recent study by Walters, *et al.*(3), indicates that the psychoanalytical hypothesis of strephosymbolia cannot be supported. Another theory is based on neurophysiological results, auditory, ocular and neu-

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We appreciate the cooperation of Dr. E. R. Clardy and Dr. J. S. Prichard.

rological. The neurological factors hold the dominant position as studies continue to support the original concepts of Morgan and Orton(1, 4) that strephosymbolia represents a developmental retardation in one specific function and this physiological deviation is due to a delayed development of unilateral cerebral dominance.

The signs and symptoms of strephosymbolia are highly variable from one individual to another and appear to be transmitted by heredity. Genetic investigations by Hallgren(5) and more recently by Norrie(6) in twins show that heredity is a decisive factor. Hermann postulates an inherited impairment of the sense of direction in space(7).

Gates believes that the dominance of the left eye is more important in these children than the dominance of the left hand(8). Photographic studies of ocular movements during reading show that these children make irregular movements back and forth with many pauses of fixation, whereas a normal child makes few pauses and moves his eyes in a steady progression from left to right. Critchley gives an interesting explanation for the disorder resulting from stored visual and kinesthetic memories associated with the process of learning to write (9). In a normal person, the visual memories associated with the writing process control the reversed patterns; in those affected with strephosymbolia there is not only a lack of dominant visual memories but a coexistence of correct and reversed muscle movements. This condition like most states of coexistence leads to a lack of understanding, resulting in misspelling, mirror writing, and the reversal of symbols. Kennard, *et al.* (10), reported 70% of disturbed children showed abnormal EEG patterns, that is, a general dysrhythmia; others have commented on the retention of the immature EEG patterns far beyond the age expectancy in children with primary behavior disorders.

The I.Q.s. of most of the children in this study are below normal, but it seems probable that psychometric tests give an erroneous estimate of their intellectual capacity. It has been reported and continues to be observed, that the schizophrenic child has a slower rate of maturation, both physical

and mental. This may explain the continuation of the strephosymbolia beyond the usual age for most children.

The most interesting question in this study is the probable relationship between the incidence of primary behavior disorders and strephosymbolia. Orton has described 4 psychiatric reaction patterns in children with strephosymbolia. Type I is a content, apathetic state with acceptance of the condition and no particular feeling of inferiority. Type II is a mild paranoid reaction resulting from being expected to keep pace with classmates. Type III is submerged with an overpowering sense of inferiority probably from association with siblings of above average abilities; when conditions are explained, these individuals are aware of their high intellectual capacity and grateful that the condition is recognized. Type IV is an emotional blocking; that is, there is blocking of intellectual output upon demand, and this could be produced voluntarily. If Orton's 4 types of psychiatric reaction patterns can be associated with the primary behavior disorders, then an etiological factor (strephosymbolia) may be established in these childhood disorders which potentially could be alleviated or prevented. Our preliminary data are sufficient to aid in establishing a correlation between emotional disorders and strephosymbolia, and in this area our investigations are continuing.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

THE ECONOMY PROBLEM FOR THE CENTRAL NERVOUS SYSTEM

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A number of models have been proposed to demonstrate methods by which various aspects of central nervous function—notably perception and learning—might be carried out. Latterly, concern has been expressed at the number of functional units, “cells,” or neuron analogues which would be necessary in such models to carry out signal classification or pattern recognition of all patterns theoretically possible by use of any given number of inputs, in such a way as to be analogous to processes of perception and learning in the organism (6).

For a number of inputs, n , to some pattern-recognition or signal-classification apparatus, each input to be capable of distinguishing k levels of intensity, the number of central units necessary for the separate registration of all theoretically possible subsets of the input ensemble is $(k+1)^n - 1$, disregarding any capacity of the system for registration of other than simultaneous patterns of input. If now k is taken to be no more than 10, and it is borne in mind that the number of nerve fibres in, say, one optic tract is of the order of one million, the number of central units necessary to carry out the proposed programme is readily seen to be very considerably greater even than Eddington's proposed estimate of 10^{79} for the total number of electrons in the physical universe, and even if allowance is made for considerable redundancy in each sensory modality, and for the possibility of registration of events on a sub-neuronal scale, a number of this order is clearly not to be entertained.

Now it is well known that the most

economical method of identifying any one member of a specified set is by a method of successive dichotomies, or by a “high-entropy decision process” (1). By such a method, any one of the set of $(k+1)^n - 1$ possible patterns discussed above may be specified by reference to at most $\log_2(k+1)$ subsets. If k be as great as 100, the ratio of necessary central units to input units then becomes approximately 6.7:1, and allowance for redundancy among the input units, and for the possibility of registration of events on a sub-neuronal scale, would reduce this ratio still further.

The findings of psychoanalysis (3), genetic psychology (9), comparative ethology (8), and conditional reflex studies (notably in regard to stimulus generalisation, or irradiation, and differentiation by simultaneous excitation and inhibition (7)), as well as experimental psychology (5), and indeed, common experience, all lend plausibility to this view that perception and learning proceed by successive discriminations; it has the further advantage that it is consistent with the highly elegant, supple, and general speculations of Hebb (4). Such a procedure is, moreover, equifinal, in the sense that an item may be specified by the same number of steps in different ways; equifinality is said to be characteristic of complex adaptive systems (2).

Nothing is here said about the precise nature of the discriminatory processes in fact involved in existing biological systems or organisms, nor is it implied that any such process is, in fact, theoretically the most economical. These questions may properly fall to be answered within the framework of such behavioral disciplines as those mentioned above.

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DIFFERENTIAL SUCCESS RATES OF PSYCHOTHERAPISTS WITH "PROCESS" AND "NON-PROCESS" SCHIZOPHRENIC PATIENTS

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Studies by Whitehorn and Betz(1-5), focussed on conditions influencing favorable clinical outcome in psychotherapy with schizophrenic patients, have demonstrated 1) that some psychiatrists (designated A doctors) consistently have higher success rates than others (designated B doctors), and 2) that A doctors could be distinguished from B doctors on the basis of certain personality characteristics. Differences were demonstrated in clinical attitude and style. Also, by the use of the Strong Vocational Interest Inventory it was possible to show that A doctors' interests were like those of Lawyers, but not of Mathematics-Physical Science Teachers; whereas the reverse was true for B doctors whose interests were found to be like those of Mathematics-Physical Science Teachers but not Lawyers.

The conclusion that the personality of the therapist is a crucial factor influencing outcome in psychotherapy with the schizophrenic patient was drawn from these studies. An alternative explanation—that the success differential between psychiatrists is based on differences in the patients, those treated by the A doctors being, in some way, clinically "easier" cases—has needed to be ruled out. Careful attention to this question has made this explanation seem unlikely.

Recent evidence, indeed, indicates that

differential success rates between psychiatrists who vary in personality characteristics are most striking with "more difficult" rather than with "easier" cases. A comparison was made of the success rates of two groups of psychiatrists treating schizophrenic patients in two diagnostic categories: "process" and "non-process." This diagnostic designation was made by Dr. Christian Astrup, from Gaustad Hospital, Oslo, Norway, who recently completed an independent, diagnostic review of over 200 case records at the Phipps Clinic (following Langfeldt's distinction between true schizophrenia—"process," and schizophreniform psychosis—"non-process"). Seventy-three of these patients (36 "process" and 37 "non-process") were in the present study.² They were treated by psychiatrists who could be divided into two groups on the basis of their score level on the Strong Vocational Interest Inventory scales for Lawyer, and Mathematics-Physical Science Teacher (scale score 40 was used as the cut-off point). Thirty-three patients were treated by group A psychiatrists and 40 patients by group B psychiatrists. The patients' discharge status, "improved" or "unimproved," as recorded in the medical record, was used as the dependent variable(6).

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² In selecting these patients' length of treatment (at least one month), type of treatment (psychotherapy only) and period of treatment (prior to 1954, so that the ataractic drugs were not a factor) were controlled.

TABLE 1

Comparison of Improvement Rates of Schizophrenic Patients, Diagnosed as "Process" and "Non-Process," Treated by Group A and Group B Psychiatrists

CONDITION OF DISCHARGE	TOTAL (N=36)		"PROCESS" PATIENTS TREATED BY PSYCHIATRISTS IN			
			GROUP A		GROUP B	
	NO.	%	(N=14)		(N=22)	
Improved	15	42%	11	71%	4	18%
Unimproved	21	58%	3	29%	18	82%

* $\chi^2=10.47$.01<p<.001

CONDITION OF DISCHARGE	TOTAL (N=37)		"NON-PROCESS" PATIENTS TREATED BY PSYCHIATRISTS IN			
			GROUP A		GROUP B	
	NO.	%	(N=19)		(N=18)	
Improved	21	57%	13	68%	8	56%
Unimproved	16	43%	6	32%	10	44%

Table 1 shows the findings when clinical outcomes of patients diagnosed as "process" and "non-process," treated by A and B psychiatrists are compared. As shown in this Table, a reliable higher success rate is found for A than B psychiatrists (71% vs.

18%) with the "process" patients, generally regarded as the more serious diagnostic category. This success differential is largely eradicated with the "non-process" patients. These data support the validity of the conclusion that differential personality factors in psychiatrists are causally related to differential "treatment success with schizophrenic patients. The unique potency of the "Lawyer" and the "Mathematics-Physical Science Teacher" variables in influencing the patient's therapeutic response is again demonstrated.

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PRELIMINARY REPORT ON PHENOXYPROPazine

NORMAN W. IMLAH, M.B.¹

Phenoxypropazine (Drazine)² is (1-Methyl 2-Phenoxyethyl) hydrazine hydrogen maleate, a monoamine oxidase inhibitor chemically related to other drugs in this group. It is the first drug of this kind to be developed in Britain for clinical use.

In this investigation 24 patients were included initially and 20 completed a 6-week trial. All were outpatients, seen at weekly intervals. At the end of 6 weeks each were rated on a 4-point improvement rating scale. Side effects were recorded.

One case was withdrawn with side effects and 3 failed to maintain attendance. The 20 completing cases were 16

female and 4 male. Age range 29-60 years, mean age 44.4 years. Duration of illness 1 month-2 years.

Twelve cases had retarded endogenous depression; 7 cases had agitated involutional depression; 1 case was a depressive reaction to severe stress. Thirteen cases had a history of previous breakdown, 8 successfully treated previously by ECT. Seven cases had specific antidepressant therapy for the current illness without benefit.

All patients started on 10 mgm. phenoxypropazine b.d.; 13 remained on this throughout. At the end of the third week 5 were increased to 10 mgm. t.d.s., and 2 decreased to 5 mgm. t.d.s. No other drugs were given apart from barbiturates at night.

Results. The final rating was as follows: recovered (symptom free) 6; minor symp-

¹ Uffculme Clinic, Birmingham, England.

² I wish to thank Smith & Nephew Pharmaceuticals Ltd. for supplying Drazine for this trial, and Dr. W. Williams of Smith & Nephew Pharmaceuticals for his co-operation and advice during the investigation.

toms only 6; improved 2; no change 6.

Improvement began in 3 cases before the end of the first week of treatment, and in the remainder during the second week. Maximum benefit was apparent by the end of the fifth week.

Side Effects. The case discontinued on account of side effects reported "diarrhoea on the second day of treatment, stopped the drug on the sixth day after which diarrhoea ceased; 5 other patients reported side effects, all of minor severity and mainly transient. They were: nocturnal limb jerking 3, severe headache after alcohol 2, mild dizziness 2, nausea 1, dry mouth 1, nocturnal frequency 1.

DISCUSSION

An observed improvement in 14 of 20 cases of depression indicates that phenoxypipazine may bear favourable comparison with other active antidepressants. As there are no other clinical reports available it remains to be shown whether similar

views are found by other observers.

The impression of therapeutic effectiveness of the drug is supported by a relatively short latent period before effect, and comparatively mild side reactions. The latent period varies between 5-12 days. Side effects were less severe and less frequent than those encountered with other antidepressants. In particular there seemed to be considerably less hypotensive action than with other MAO inhibitors.

In consequence of this favourable preliminary impression a more intensive investigation has been undertaken.

SUMMARY

A preliminary clinical investigation of a new MAO inhibiting antidepressant, phenoxypipazine, is reported. Of 20 cases, 14 were improved, and in 12 cases the response was highly satisfactory after 6 weeks. Side effects were comparatively few, and with one exception, mild. Hypotensive activity was slight.

AMITRIPTYLINE-PERPHENAZINE¹ IN THE TREATMENT OF SCHIZOPHRENIA

R. E. KENNEDY, M.D., AND J. J. MILLER, M.D.²

The effectiveness of various dosage combinations of amitriptyline (Elavil) and perphenazine (Trilafon) in hospitalized psychiatric patients has previously been reported(1). As of Jan. 1963, 1,000 patients in diverse diagnostic categories have been treated in this hospital with both these drugs. The series is a continuing one.

Early in the study, this was a clinical trial in search of a design. Kessenich(2), who spoke of similar problems with drug testing in neurology, questioned the necessity of double blind studies or the use of placebo controls in the investigation of serious ailments. Interestingly enough, schizophrenia recently has been characterized as being, from many points of view, the

most terrible of all diseases(3). Kessenich further suggests that it might be permissible to utilize previous experience of an investigator as a control against which he might compare his results with new treatment. In this study, we are comparing amitriptyline-perphenazine treatment with other methods that formerly were used at Rollman in the treatment of schizophrenia.

This hospital dates only from 1955, relatively early in the period of pharmacotherapy in psychiatry. During the first few years, the majority of schizophrenic patients received a phenothiazine, or reserpine, but ECT was considered the bulwark of treatment, particularly because patients usually cannot be retained for more than 90 days. By 1959, perphenazine had become the phenothiazine of choice. When the less toxic MAO inhibitors began to appear, these were added to treatment. Nevertheless, ECT continued to be used

¹ Triavil—Merck, Sharp and Dohme.

² Rollman Psychiatric Institute, Cincinnati, Ohio.

The entire staff, under the direction of C. O. Ranger, M.D., contributed to the treatment of the patients reported in this study.

extensively, especially for schizophrenia.

In May 1961, amitriptyline was tried in combination with perphenazine, replacing the MAO inhibitors. It was soon apparent that the new combination produced excellent results. Fifty schizophrenic patients admitted between July 1 and Dec. 31, 1961, were treated with amitriptyline-perphenazine. The rate of satisfactory remission was 84%, but 30% received ECT in addition to the drugs. This represents a substantial gain over previous experience at this hospital(4). As time went by, doses tended to be increased, and ECT was found to be superfluous in many instances. From Jan. 1, 1962 to June 30, 1962, 87 more schizophrenics were added to the series. The rate of satisfactory remission in this group rose to 88%, and at the same time, only 11% were given any ECT. Currently, almost no ECT is being used, and results promise to be better, since more attention is now being paid to dosage, to identification of tablet evaders, and to detection of possible concomitant thyroid disorders.

The outstanding feature of amitriptyline-perphenazine treatment is that almost immediately patients begin to gain hours of refreshing sleep, if high enough doses are administered.³ Sleep, indeed, appears to be

³ Results were better with high doses. The 24-hour dose of amitriptyline was usually 200 mg.; that of perphenazine 64 mg. or more. Benztrapine (Cogentin) was added in doses of 0.5-1.0 mg. to prevent drug parkinsonism.

the pivotal factor in recovery. Sedatives no longer need to be given, and may even be contraindicated. The quality of sleep associated with sedatives is, in our experience, very different from that obtained from amitriptyline-perphenazine. Some patients report vivid dreaming with the latter, but not after⁴ taking barbiturates or "barbituroids."

Rond(5) quotes from an American physician of a century ago, who referred to want of sleep as almost a certain precursor of mental derangement. If this be so, then restoration of lost sleep certainly could be considered indicated in the treatment of schizophrenia.

SUMMARY

One-hundred and thirty-seven hospitalized schizophrenic patients received amitriptyline-perphenazine for periods seldom exceeding 90 days with a remission rate of about 86%. A possible rationale for the treatment is offered.

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CONTROLLED EVALUATIONS OF SEVERAL TRANQUILIZING AGENTS IN ANXIOUS NEUROTIC OUTPATIENTS¹

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We report here results in the evaluations of 4 newly developed pharmacological agents : amphenidone (Dornwal) (200 mg., q.i.d.), I.S. 813 (Clarmil) (300 mg., q.i.d.), Mead & Johnson 5055 (neopentyl allyl bar-

bituric acid, Nevental) (100 mg., q.i.d.) and McN-X-181 (ethyl-methyl-valeramide) (400 mg., q.i.d.).

In all four studies, a double blind controlled cross-over method was used. The patient's emotional status was evaluated and change recorded by the Physician Rating Scale, The Absolute Overall Scale (0-7), measuring degree of psychopathology, and the "Relative Overall Scale" (-3/+3), recording whether the patient felt the same,

¹ All 4 studies were supported by USPHS grant MY 2934. Medication was supplied by Maltbie Lab., McNeil Lab., Mead & Johnson, and Wallace Lab.

² From the Dept. of Psychiatry, University of Pennsylvania, and Philadelphia General Hospital.

better, or worse as compared to the visit two weeks ago.

Anxious neurotic patients referred to the Psychopharmacology Clinic of the Hospital of the University of Pennsylvania participated in these studies (62% white, 65% female, mean age 38.3). Duration of illness was evenly distributed for all 4 studies, with an average duration of over 1 year.

All patients were allowed to adjust dosage within a given range, upwards as well as downwards. Returned capsules as well as inquiry into drug usage were used to eliminate obvious drug deviators. Patients were placed either on placebo or one of the active agents for periods of 2 weeks (4 weeks for the amphenidone study). Each patient served as his own control, being treated on one active agent and placebo.

While several psychiatric residents participated in these studies, the same research nurse was involved. Patients were first seen by the research nurse, completed their forms, and then saw the physician for an average of 10 to 15 minutes. Patients were told that we had some drugs available which we thought might help their "nerves," and that they had to take each drug for at least two weeks in order to learn something about its efficacy. Medications were prepared in pink No. II capsules and were prescribed as "2 capsules q.i.d." This allowed for flexibility, *i.e.*, to increase up to 3 capsules q.i.d. or decrease to not less than 6 capsules daily.

Only "completed patients" will be discussed. Attrition rate, however, did not differ significantly for each study and was 31% for all studies.

The following number of completed patients participated in each study: 30 patients on amphenidone and placebo, 32 patients on I.S. 813 and placebo, 32 patients on McN-X-181 and placebo, and 34 patients on Mead & Johnson 5055 and placebo. Data were analyzed by analysis of variance, student's t-test, and, where parametric statistics were not applicable, by sign test and chi-square. Sub-scores could only be analyzed by non-parametric statistics because of skewed distributions.

Side Effects: While only occasionally drowsiness was reported with I.S. 813 and amphenidone, 75% of patients on 5055 complained of drowsiness and sedation. The most disturbing side reactions were produced by McN-X-181. Patients reported "tingling and numbness in legs," "funny feeling in the head," "dizziness and blurring of vision, drowsiness" and one patient suffered a mild edema of the lower extremities.

Clinical Improvement: Table I gives difference scores as improvement indicators.

TABLE I

OVERALL RATINGS OF IMPROVEMENT
(Drug-Placebo Differences)

	Amphenidone (Dornwal) N=30		I.S. 813 (Clarmil) N=32		McN-X-181 N=32		Mead & Johnson 5055 (Nevental) N=34	
	△ D-P		△ D-P		△ D-P		△ D-P	
	2 wks	4 wks	2 wks	2 wks	2 wks	2 wks	2 wks	2 wks
Physician ** Questionnaire	-.08	+.80	+.31		-.10		-.44	
Absolute Overall Scale (0-7)	--	--	-.20		+.19		-.45	
Relative Overall Scale (-3 to +3)	+.45	+.13	+.15		+.48		+.39*	
Patient Questionnaire	-4.15	-1.41	--		--		--	

* Significant at the 5% level (one-tailed).

** In all measures but the "Relative Overall Scale", a minus (-) sign indicates improvement.

These scores were derived by subtracting change produced by placebo from change produced by each of the 4 active agents. Only one Overall measure showed significant differences between one of the 4 drugs and placebo. Furthermore, data not presented here, including an analysis of the Clyde Mood Scale subscores as well as Physician questionnaire clusters and items, failed to demonstrate significant drug-placebo differences for 3 of the 4 drugs. Only Mead & Johnson 5055, the barbiturate derivative, showed drug-placebo differences for the Clyde Mood Scale subscores. Patients became significantly less energetic ($p=.10$), less aggressive ($p=.01$), and less jittery ($p=.05$). Summarizing our findings, one may say that Mead & Johnson 5055 produced mildly better results than the other 3 agents, however, at the expense of sedation.

TWILIGHT SLEEP PREMEDICATION IN EST

LAWRENCE H. GAHAGAN, M.D.¹

Twilight sleep, induced by scopolamine and a barbiturate, is an effective premedication for the frightened, agitated or resistive EST patient. Such premedication makes it possible to prevent—or at least alleviate—the anxiety which is otherwise so often associated with this treatment.

It is especially important to avoid anxiety in a procedure, such as EST, which is administered as a series of treatments. Mounting fear not only adds to the patient's misery, but it may also cause him to discontinue treatment or to refuse a further course of EST, if his illness recurs.

About 15 years ago, we began using light twilight sleep for calming disturbed patients, particularly those who were noisy or resistive. Recently, we have extended the use of twilight sleep, and now administer it almost routinely for premedication in hospitalized EST patients.

Technic: about one hour before EST, the patient receives scopolamine hydrobromide 0.6 mg. (1/100 gr.) by intramuscular injection and also a barbiturate, usually amobarbital (amytal) sodium 0.2 gm. (3 gr.) by mouth. Occasionally the barbiturate dose is doubled, or the barbiturate may be given intramuscularly.

By the time of EST, the patient is drowsy, tranquil and cooperative. Before applying the electric stimulus, an intravenous injection of an atropine-barbiturate solution, freshly prepared, is administered. (An appropriate reduction in the atropine-barbiturate dosage is made in view of the scopolamine-barbiturate premedication.) The atropine-barbiturate injection is immediately followed by an injection of succinylcholine (anectine) chloride from a separate syringe through the same needle. After about one minute, the electric stimulus is applied.

No instances of undue excitement or troublesome delirium resulting from the scopolamine-barbiturate premedication have been observed. Such undesired reactions can occur, but they are unlikely in the

absence of pain. We emphatically agree with Goodman and Gilman(1) that "the *disadvantages* of scopolamine are considered negligible by those who have had experience with the drug" (author's italics).

It should be repeated that both scopolamine and barbiturates are prone to cause excitement and delirium only when pain is present(1). For this reason, the warnings of the obstetricians and surgeons about the complexities of twilight sleep are hardly applicable.

As Dille(2) points out, "scopolamine is an excellent drug for the production of amnesia and loss of interest in any surrounding activities." In EST, scopolamine has some added advantages: 1) it has a potent inhibiting effect on secretions; 2) it is an antinauseant; 3) it stimulates respiration and counteracts the respiratory depressant effect of pentobarbital(1).

On the other hand, the vagal depressor effect of scopolamine is relatively weak in comparison with atropine(3). We have not yet determined whether scopolamine, as administered, will regularly prevent EST-induced cardiac arrhythmias of vagal origin. In playing safe, we continue to administer a small dose of intravenous atropine sulfate, usually 0.6 mg. (1/100 gr.) to assure an adequate blockade of the cardiac vagus (4, 5). As mentioned, the atropine-barbiturate solution is administered intravenously about one hour after the scopolamine-barbiturate premedication and shortly before the application of the electric stimulus.

SUMMARY

The patient's acceptance of EST is greatly facilitated by twilight sleep premedication. Light twilight sleep is readily induced by scopolamine and a barbiturate, which are administered about one hour before EST.

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THE EFFECT OF POTASSIUM ON PHENOTHIAZINE-INDUCED EXTRAPYRAMIDAL SYSTEM DYSFUNCTION

G. BROOKS, M.D., L. WEAVER, Ph.D.,
C. L. RAVARIS, M.D.¹ AND M. MacDONALD, M.D.²

While treating a group of male patients with fluphenazine, LaPolla(1) made the empirical observation that the administration of 1.5 gm. of potassium orally exerted a beneficial effect on extrapyramidal system (EPS) dysfunction. A controlled study to test this observation was undertaken.

METHOD

Sixteen schizophrenic and 4 manic-depressive patients with a mean age of 42 years were selected. Females were chosen because of the greater incidence of EPS dysfunction(2). All patients were receiving psychotropic drugs. These drugs were terminated and, during the 2-week initial period, all patients were placed on 5 mg. of fluphenazine (Prolixin) and 2 mg. benzotropine methanesulfonate (Cogentin) once daily. This was done to minimize the withdrawal effects so often encountered with abrupt withdrawal of phenothiazine medication(3) and to obtain baseline data on clinical status, psychomotor performance, and serum potassium levels.

Clinical examination for EPS dysfunction and psychomotor testing were done thrice weekly. Fasting serum potassium determinations were performed at the end of the first two weeks and at the conclusion of the study.

Following the two-week stabilization period, the patients were assigned to bal-

anced experimental and control groups on the basis of clinical ratings and psychomotor test performance. Over the next three-week experimental period, both groups received fluphenazine on the following schedule: week I, 5 mg. daily; week II, 10 mg. daily, and week III, 20 mg. daily. A matching placebo replaced the daily Cogentin tablet. The experimental group received 15 milliequivalents (1.25 gms.) of potassium (K-Triplex, Lilly) in 2 ounces of lemonade t.i.d. The control group received a matching placebo.

With the exception of the research psychologist, all participants on the study were blind to group assignments. Ward personnel were not aware of the purpose of the study.

RESULTS

At the end of the stabilization period, 5 patients showed a mild-to-moderate degree of cogwheel rigidity, or resistance to passive stretch, or both. Psychomotor performance was, of course, equal since the groups were equated on this dimension.

At the end of the experimental period there was a definite increase in the incidence and severity of EPS dysfunction in the experimental group, involving 7 of 10 patients. The control group had only 3 of 10 patients so involved. In most instances, the increase was due to the exacerbation of previously existing symptoms. The overall incidence of 50% is in accord with previous experience with piperazine phenothiazines at moderate dose levels. The failure to observe a greater evidence of EPS dysfunction may reflect a selective factor since these patients have had long previous treatment with various phenothiazines.

There was no significant difference between the two groups on psychomotor test

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Fluphenazine (Prolixin®) was supplied by E. R. Squibb and Sons and potassium (K-Triplex®) was supplied by Eli Lilly and Co.

performance during the experimental period. Serum potassium levels, at both periods, were within normal limits.

It is concluded that this study presents no evidence that supplemental oral potassium will reduce the incidence or severity of extrapyramidal motor system dysfunction secondary to the administration of

phenothiazine medication.

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MENTAL ILLNESS AND VISUAL ILLUSION

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Ames in 1951(1) described the visual illusion experienced by normal human subjects during demonstration of the rotating trapezoidal window. Under identical conditions most urban European and African subjects have the visual illusion, *i.e.*, the trapezoidal window oscillates instead of turning clockwise. However, the majority of African rural subjects, never having contact with western culture, do not have this visual illusion. It has been concluded that the knowledge of architecture plays a role in the occurrence of this illusion(2). It seemed possible that illusory perception might be altered in some forms of mental illness, and perhaps have a diagnostic or other value.

METHOD

Selection of patients: The first group consisted of all schizophrenics admitted to Creedmoor State Hospital with no history of previous hospitalization, tested on a continuous basis during a 12-month period. The number of patients tested was 110, 53 males and 57 females; they had an age range of 15-51. The second group consisted of chronic psychotics who were hospitalized for a long period of time; 251 patients were tested in this group, 210 males and 41 females, within the age range of 31-90. Volunteers from the hospital and institute staff made up the third group of 25 controls, 12 males and 13 females, within the age range of 16-60.

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The editorial assistance of John R. Whittier, M.D., the technical assistance of Edith Feehan, R.N., and Amy Klier, R.N., and the cooperation of Hans P. Laqueur, M.D., are gratefully acknowledged.

The procedure for demonstration of the trapezoidal window was the following: the subject was seated in a dark room and the apparatus was placed on a table at a distance of 20 feet, at the subject's eye level. Both of the subject's eyes were uncovered. He was instructed to watch carefully the movement that he would see. First the rectangular window was shown, and after 3 revolutions, the examiner asked "How does it seem to you to be moving?" After obtaining a report for the rectangular window, the trapezoidal window was shown in the same way. The examiner recorded the answer as "yes," "no," or "uncertain," meaning subject had the illusion, did not have the illusion, or was uncertain.

RESULTS

Ninety-seven percent of the acutely ill schizophrenics, 90% of the chronic psychotics, and 96% of the controls, had the visual illusion. This finding is similar to that of Allport *et al.*(2): 84% for the African urban group and 80% for the European urban group.

SUMMARY

The Ames rotating trapezoidal window was demonstrated to 110 acute schizophrenics, 251 chronic psychotics, and 25 controls. The ratio of subjects experiencing the visual illusion was found similar in each group: 97%, 90%, and 96% respectively. It is concluded that mental disorder does not alter this form of illusory perception.

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CASE REPORTS

MANIA ASSOCIATED WITH THE USE OF I.N.H. AND COCAINE

FRANCIS J. KANE, JR., M.D., AND TERRY W. TAYLOR, M.D.¹

Mental disturbances have been reported in the past accompanying the use of isonicotinic acid hydrazide(1) and cocaine(2). The occurrence of separate manic attacks separated by an interval of 30 years associated with the use of these drugs seems worthy of report.

A 49-year-old married white professional man entered the Psychiatric Inpatient Service of the North Carolina Memorial Hospital on 7/23/62, with a one-week history of bizarre behavior characterized by unusual suspiciousness, ideas of reference, unusual verbal aggressiveness, unusual expenditures of money, insomnia, marked motor hyperactivity, and visual hallucinations (snakes). Mental status revealed an alert, markedly hyperactive man with marked pressure of speech. He gestured constantly, paced continuously, and showed marked changes in mood from elation to depression, and tearfulness. There was no evidence of hallucinations at this time. The patient had many ideas of reference and was quite paranoid about his family. He was oriented in all spheres, and both recent and remote memory were intact. He abstracted proverbs well. Physical examination at that time was essentially within normal limits. History revealed ingestion of 100 mgs. I.N.H. q.i.d. and PAS 15 gms. daily for suspected TBC. He received chlorpromazine medication orally in doses of 400 milligrams which over a period of days brought him to a calmer state. Since it was felt that this syndrome might be in some way connected with his I.N.H. medication, he also received pyridoxine 100 milligrams daily. He was discharged from the hospital on 8/21/62, much improved.

On 9/13/33, the patient had been admitted to a state hospital with a mood disorder diagnosed as manic depressive psychosis, manic type. This had followed one week of prescribed use of cocaine extract intranasally for the relief of acute sinusitis. He was discharged from the hospital on 3/2/34, much improved. In the interval he has been a hard working successful professional man who has enjoyed good health and has served with distinction

in his community and in the military service in the Pacific in World War II under conditions of extreme hardship. A follow-up 8 weeks after discharge reveals that the patient is doing well at this time.

The occurrence of mania associated with the use of I.N.H. has been reported at least once along with a variety of other clinical syndromes(1). Psychoses with chronic hallucinosis and Korsakoff psychosis of several years' duration have also been reported, these being looked upon as evidence of organic cerebral impairment(3). Others have reported considerable emotional instability and persistent loss of recent memory associated with the chronic use of I.N.H.(4). Severe spastic paraplegia with depression has also been reported(5).

The probable common underlying problem in all the above is the interference with basic neurophysiological processes involving the use of pyridoxin, the metabolism of which is markedly impaired by hydrazide compounds(6). This interference depletes brain gamma-amino-butyric acid which has a non-specific depressant effect on nervous tissue. Vitamin B-6 co-enzymes are also involved in metabolic processes in the production of the principal central nervous system neurohormones, norepinephrine, and serotonin(7). The clinical reports cited above seemed to have occurred prior to the use of prophylactic pyridoxin, and several patients were reported retreated with I.N.H. while receiving B-6 prophylactically. Our patient was not receiving prophylactic pyridoxin, so it seems plausible to suspect that marked C.N.S. over-stimulation may be the result of interference with vital cerebral metabolic systems.

Cocaine has been found to potentiate enormously the action of the neurohormones, epinephrine and norepinephrine(8). This potentiation of norepinephrine gives rise to a central adrenergic stimulus similar to that provoked by L.S.D.(2). This patient

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would seem to underline the difficulty of attributing to one type of stress the potential for producing psychosis since personal psychological stress plus impaired cerebral function seemed to have been co-factors in the development of this patient's illness.

SUMMARY

A patient is reported who showed similar attacks of mania separated by an interval of 30 years associated on each occasion with the use of a drug which causes marked C.N.S. stimulation. It would seem, for this patient, at least, that the profound disturbance of C.N.S. function sometimes associated with these drugs served as an additional severe stress causing personality disruption and a manic illness. Since many compounds of this kind are being used increasingly for the treatment of mental

illness, it may be that we will see an increasing number of these syndromes.

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REGIONAL ILEITIS IN DEPRESSED PATIENTS

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Regional enteritis or "Crohn's Disease" has received little attention in psychiatric literature. Crohn's monograph² does describe various investigations in the psychosomatic area, but these have been generally inconclusive and in many instances seem to exclude psychological influence. In discussing the possible role of psychological factors, Crohn comments as follows: "True, many cases of ileitis have been rescued from psychiatric institutions, but that is only because the diarrhea was regarded as nervous, and the true source of the illness was completely missed."³ The meaning of this statement apparently is that the enteritis was purely an incidental finding unrelated to the particular psychologic characteristics of the population.

In the following two cases of hospitalized psychiatric patients the diagnosis of regional enteritis was belatedly established.

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² Crohn, B. B., and Yarnis, H.: *Regional Ileitis*. New York: Grune & Stratton, 1958.

³ *Ibid.*: p. 29, by permission.

Both were males, in the military service, 23 and 35 years of age. The younger man experienced his first bouts of diarrhea during times of stress such as basic training and specialist school. Subsequent bouts tended to be related to post-discharge civilian-life stress situations of work, courtship and marriage. The older patient experienced unusual diarrhea shortly after the death of a son and at a time when he was scheduled for a tour of sea duty. At times it had seemed to observers that the patients were depressed because of the intermittent distressful diarrhea. Each had been hospitalized for psychiatric symptoms. The diarrhea was accompanied by cramps and general malaise which had led to the suspicion of an organic gut disorder. Repeated extensive medical-roentgenological evaluation had failed to reveal organic pathology. In each case the diagnosis of regional enteritis was finally established within a few months of former normal examinations. In both there had been pre-occupations with the body status. The elder patient had always been free from definitive disorders, but he considered himself to have been "in poor health as long as I can remember." The younger patient had suffered more clear-cut problems of congenital upper alimentary canal stricture, childhood capricious ap-

petite, life-long dermatitis, and adolescent and adult obesity.

In each case diarrhea and abdominal cramps appeared at a time of considerable stress associated with anxiety and depression. In each the anxiety and depression continued into an intermittent chronic state and continued to be closely associated with cramps and diarrhea.

Follow-up of the elder patient revealed persistent depression and bodily concerns follow-

ing convalescence from definitive surgical treatment of the gut lesion.

These cases seem to suggest that particularly stressful life experiences may have contributed in some way to development of the enteritis. Implicit in this report is the warning that unsuccessful search for suspected organic disorders is no guarantee against their future discovery.

ANOREXIA NERVOSA AND GONADAL DYSGENESIS (TURNER'S SYNDROME)

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It is the authors' purpose to record the first instance of an association between anorexia nervosa and Turner's syndrome.

S. B. weighed 5 lbs. at birth,* after an uncomplicated 8-month gestation. She was the only child of Jewish immigrants from Eastern Europe. The mother and several relatives of both parents were less than 5 feet tall. The maternal grandmother had experienced a psychotic depression of 2 years' duration; recovery immediately followed EST in a psychiatric hospital. The paternal grandfather had diabetes mellitus. The family history was otherwise unremarkable. At delivery the mother was 38 and father 46 years of age; the pregnancy occurred after 12 years of sterile marriage.

At birth the patient was "small, active, with good color; nuchal skin very loosely webbed; dorsum hands and feet firmly edematous; eyes in hypertelorism position; palate has high arch; hair line very low on webbed neck; ears low-set." The edema of the hands and feet had disappeared by age 3 weeks. Repeated follow-up evaluations revealed delayed growth as determined by the Baby Wetzel Grid. Her general development and intellect were considered normal; she sat at 7 months, pulled up at 9 months, walked at 13 months, used first words at less than 12 months, and was using simple sentences by 18 months. Full Scale IQ's ranged from 95 to 108. Blood pressures were normal in all extremities and there

was no evidence of cardiac murmurs or enlargement. At age 5 she was short and stocky (33 in. and 37 lbs.). She gained and lost weight rapidly in 2-5 pound fluctuations, but by age 13 she was quite corpulent (53 in. and 87 lbs.).

At age 7 her pediatrician recorded that she had "areas of alopecia areata" and at 7½ "hair still falling out." (The mother now states that "she was pulling her hair out even then.") At age 8 epiphyseal roentgenography revealed ossification compatible with her chronologic age. An attempt was made to stimulate growth with methyl testosterone.

At age 11½, the epiphyseal roentgenographic age was 12 years. CBC and urinalysis were normal. The 24-hour urinary FSH excretion was 5 mouse units. A cuboidal vaginal epithelium was demonstrated. Vaginal, buccal, and blood smears all revealed absence of female chromatin bodies. Testosterone linguets (5 mg.) and thyroid (60 mg.) were given daily to stimulate growth. At this time she was "although extroverted and active in sports, upset about problems; wants to be taller, concerned about her size and role, wears padded brassiere." The record reveals that there were 3 episodes of repeated emesis for 24 hours during a 2-3 month period when testosterone and thyroid were first given.

By age 13 her growth rate had not increased despite thyroid and testosterone therapy; however, these medications were continued 10 months longer during which time it became clear that growth had ceased at 53 inches, her present height. At 13 she had a tonsillectomy and adenoidectomy. At 14 a "Z type" plastic repair of the webbed neck was performed. Both she and mother were concerned about her growth failure and the absence of sec-

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We are indebted to Dr. Max Deutch and Dr. Paul Zentay for permission to review their clinical records.

ondary sex characteristics. At 13 she was seen by her pediatrician for "depression at social rejection—is not invited to parties and 'not in on anything'." Psychiatric consultation was advised but refused.

At 13½ she weighed 87¼ lbs., was 52½ inches tall, and demonstrated concern at her obesity; therefore, a 1000 calorie diet and 10 mg. dextroamphetamine daily were added to daily thyroid and methyl testosterone. In 6 weeks she lost 11 lbs. and was advised to discontinue both Dexedrine and diet. She was "afraid she'd look fat and funny," however, and continued to restrict dietary intake. In 8 more weeks she lost 10 additional pounds to 65¼—a total loss in 14 weeks of 21½ lbs., or approximately 25% of initial body weight. She attained this weight loss by restricting her intake drastically, exercising excessively, using cathartics to produce diarrhea, and regurgitating the occasional meal that hunger forced her to consume. When her parents became concerned about her weight loss, she resorted to lying, hiding food, and concealing her actual caloric deficit. At this time a 24-hour urine contained 3.9 mg. of 17 keto steroids, 4.1 mg. of 17 hydroxy cortico steroids, and 9.2 rat units of FSH (normal adult 8-50 units). A sulfation factor value was 0.2455 units (normal 0.8 to 1.18). As no pituitary growth hormone was available at that time, she was begun on Methandrostenolone (Dianabol, Ciba) tablets, 5 mg. daily. Her mother complained that the patient had diarrhea and repeated vomiting after gorging herself. Alopecia was again noted. This symptom had reappeared simultaneously with nail biting, thumb sucking, and habitual face-rubbing. She was "very nervous" and gave a history of frequent abdominal pain and recurrent nausea. She stated that "everything I used to do looks bigger than it is and I'm so upset I can't stop biting my nails, pulling my hair, and worrying about everything." Medications were discontinued.

The psychiatric consultant noted that while she "had had several problems, both medical and emotional, prior to 6 months ago, it was only then that the acute difficulties appeared. Formerly, she would minimize her short stature and tell her mother 'you should be glad it's not polio.' Then she became worried about her appearance, went on a diet, and became self-critical. In school she had been compulsive and anxious about her work for the first time; her grades are reflecting her efforts and have gone from C to B. Her mood has been moderately depressed and her behavior includes a wish to be close to the mother, appearing guilty away from home, being sub-

normally assertive at school and with her friends and, of course, being self-critical about her appearance." Within a week she was back in the pediatrician's office saying that she was still distressed: "It's not my size, I don't know what it is." Her weight had fallen to 53 lbs., and immediate hospitalization was advised to deal with the severe malnutrition and dehydration.

From this point until the present, 30 months later, she has spent over 50% of her time as a psychiatric inpatient. There have been 11 separate admittances to 4 different hospitals for periods of 4 days to 9 months. Each has been prompted by severe weight loss and dehydration. Her weight has been 38-50 lbs. on admittance and 65-85 lbs. at discharge. She remained alert and active despite the weight loss and dehydration. She confounded open floor management by hiding food, vomiting secretly, stealing other patients' cathartics, lying about her activities and goals, secretly gorging 2 liters of water just prior to daily weighing, *etc.* She gained weight promptly on a closed ward; however, when discharged the same process would begin again and in a short while severe weight loss would be evident. She is now hospitalized.

Turner's syndrome is a genetically determined disorder characterized by retarded growth with normal epiphyseal development and adult dwarfism; stocky body build; broad shield-like chest; short, webbed neck; lymphedema of dorsum of hands and feet which disappears in the first few weeks of life; digital valgus; hypotelorism; high-arched palate; frequent cardiovascular anomalies and hypertension; and infantile female external genitalia without development of primary and secondary sex characteristics through puberty. In addition mental deficiency is supposedly more common than in the general population (1-3). These patients ordinarily have either 45/XO sex chromosomes or have a form of 45/XO/46/XX mosaicism, although there are rare instances of 46/XX or 46/XY karyotypes (1). The webbed neck apparently is seen with the absence of sex chromatin bodies (3) and the 45/XO karyotype. Our patient quite obviously meets the diagnostic criteria for Turner's syndrome; indeed, she lacks only the non-essential features of cardiovascular anomalies and mental deficiency.

The marked weight loss after initial dieting in an adolescent female with obsessions and phobias about food establish the diagnosis of anorexia nervosa in our patient. Primary amenorrhea, a manifestation of gonadal dysgenesis, precluded the development of the secondary amenorrhea some authors(4) consider an essential diagnostic feature of anorexia nervosa.

SUMMARY

A patient with Turner's syndrome (ovarian dysgenesis) and anorexia nervosa is

reported; available data from birth to age 18 are summarized.

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POST-HYSTERECTOMY PSEUDOCYESIS OR PHANTOM VISCERAL ORGAN

A. J. MALERSTEIN, M.D.¹

Bodenheimer(3) mentions casually having seen one patient post-hysterectomy with symptoms of pseudocyesis. His report is included in Bivin and Klinger's(2) classical study of the literature on pseudocyesis. Otherwise, neither Bivin and Klinger nor Rutherford(6) include any cases of pseudocyesis post-hysterectomy.

Hoffman(5) reviewed 51 references dating back to 1872. He concludes phantoms of the penis, breast or facial parts are infrequent and points out phantom teeth have been reported. Critchley(4) reported breast or ear phantoms are uncommon, while eye, rectum and larynx phantoms are common. Ackerly, Lhamon and Fitts(1) reported 11 cases of phantom breast symptoms in 55 breast amputees. They stressed that in cases where the phantom was not painful they had to ask the patient to elicit any symptoms of a phantom. They allude to the possibility of visceral phantoms. Szasz(7) reports two patients who, after vagotomy, had healed ulcers by x-ray, but continued to have ulcer pains relieved by milk and water.

Our patient, a married woman in her late twenties, mother of three, had had repeated hospitalization for pernicious vomiting of 2 years' duration. For 2 years prior to the onset

of her vomiting and commencing shortly following hysterectomy (for back pain, dyspareunia, and metrorrhagia), she was tense, bored, restless, suffered from insomnia, had fainting spells, and poured her energies into an extra job, housework, and providing meals for boarders.

The onset of vomiting followed a meal in a restaurant. The patient's physician diagnosed the condition as food poisoning. The patient had been obese since the age of 9 or 10. It dawned on her after her first episode of vomiting that one way of losing weight without giving up eating was to stick her finger down her throat. She induced emesis in this manner for about 10 days, but following this she continued to vomit without conscious control at a rate varying from many times a day to occasional periods of a few days free from vomiting. Her vomiting in its severest form resulted in several hospitalizations, during which she would respond well over a period of two to three weeks of sedation, I.V. fluids, and extensive workups. The workups revealed no positive findings. When I saw her she appeared very thin and older than her chronological age.

By the time she started therapy many secondary gratifications were derived from the symptom. The patient had symptoms other than vomiting (mainly phobic) as well as some character problems. The vomiting was variously determined, *e.g.*, related to the eating habits and attitudes of the family. However, I will confine myself to culling out only that material which I feel supports my thesis that this

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woman had an unconscious fantasy that she was pregnant.

The sight or smell of food made her vomit. Yet she craved homemade ice cream, and watermelon, the two foods she craved when pregnant with her first child. During the course of therapy she was about to be anaesthetized prior to surgery for a nonfunctioning ovarian cyst and she told the intern her breasts were sore. At one point during psychotherapy she said, "I know it's crazy, but I felt life in my belly." At times she had cramping abdominal pain which radiated to her back.

There are more data available that would suggest how the choice of a fantasy of pregnancy would interweave into this patient's history and serve specific functions for her. However, these have been omitted.

Since seeing this patient, Dr. Bernard Weil informed me that he had a patient who continued to have periodic "menstrual cramps" post-hysterectomy. A friend who read this paper prior to publication had periodic "pre-menstrual" cramps, depres-

sion and feelings of heaviness which lasted for 6-7 months after hysterectomy. She never spoke of her symptoms to her physician. If post-surgical symptomatology on a phantom visceral organ basis occurs more often than would ordinarily be supposed, it may constitute an explanation of some of the post-operative complications with which the surgeon is confronted.

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COMMENTS

EUTHANASIA

"Is life no more than the heart-beat and respiration?" In those words *The Lancet*¹ asks, and answers somewhat ambiguously, one of the most difficult, painful and tragic questions the doctor is called upon to answer.

The question refers to the combined labour of doctors and nurses to prolong life in the case of a patient in irreversible coma due to extensive destruction of the cerebral cortex following head injury or other causes. In such a case the consciousness has been obliterated, the mind is gone, the person has ceased to exist. What is left is an automaton in the familiar human form subsisting through the activities of the lower brain centers. Such an existence may be continued for months or even years. "Is it really prolonging life," *The Lancet* asks, "or merely prolonging dying?"

There are, of course, two sides to such an issue. The rule to which the doctor dedicates his life and which society trusts him to follow is to save life and keep it going at all costs. In this respect a sharp distinction traditionally exists in the evaluation of human life and that of other animals. The factors leading to this distinction in which human kind has been indoctrinated from times immemorial make an interesting and worthwhile, if somewhat discouraging study which, relatively speaking, still has a long way to go.

But the best of rules may have exceptions, and the physician may find himself in a dilemma that may be resolved only by "turning a blind eye on general rules." *The Lancet* editorial ends: "A clinician who persistently seeks to sustain a parody of life may end in serving nobody and nothing

except pride in his own technical competence."

The question of preserving life of the body without the person is only one of those with which the physician may have to deal. The case of incurable disease accompanied by great suffering is another. Here sedation adequate to relieve intolerable pain is the obvious indication. Sometimes a patient who is quite aware of his helpless situation takes matters into his own hands; and we recall Seneca's opinion as to the individual's right to decide whether he will continue to live in his own house of flesh.

Over the years medical thinking about euthanasia appears to have been changing. *New Medical Materia*,² a monthly commentary on medical and socio-economic problems, recently presented graphically, following a wide survey of medical opinion throughout the United States, a cross-section of the views of American doctors on two questions:

1. *The case of a patient in great pain without hope of relief or recovery;*
2. *An infant born with serious abnormalities and with no chance of a normal life.*

In the first situation 31.2% of all doctors surveyed felt that euthanasia was justified. Classified according to religion the figures were: Protestant 38.5%; Catholic 6.7%; Jews 38.8%.

In favour of euthanasia in the second situation: 32.8% of all doctors: Protestant 40.7%; Catholic 6.2%; Jews 48.8%.

Accompanying these charts *New Medical Materia* also published a cross-section of opinions both for and against euthanasia in these two situations, expressed verbally by doctors participating in the survey. These opinions illustrate the perennial division between religious and non-religious thinking.

C. B. F.

¹ Dec. 8, 1962.

² October, 1962.

NEWS AND NOTES

NEW YORK CITY COMMUNITY MENTAL HEALTH SERVICE.—The cost of mental illness in the United States is highlighted by the budget estimate by Dr. Marvin E. Perkins, Commissioner of Mental Health Service, New York City, for fiscal year 1963-64. It totals \$34,166,203, representing an increase of \$6,040,032 over the budget for 1962-63.

Dr. Perkins also notes that a decade ago the direct and indirect *national* cost of mental illness was estimated to be \$2.4 billion. The corresponding figure as of today was not given.

DR. FRAZIER GOES TO BAYLOR UNIVERSITY.—As of January 1, 1963, Dr. Shervert Frazier became Professor of Psychiatry and Chairman of the Department at Baylor University Medical School, Houston, Texas. Before going to Baylor, Dr. Frazier had been a member of the Department of Psychiatry at the College of Physicians and Surgeons, Columbia University.

ACADEMY OF PSYCHOSOMATIC MEDICINE.—The Academy will hold its second symposium on "Anxiety and Depression" at the Marlborough Blenheim Hotel, Atlantic City, N. J., June 15-16, 1963, beginning at 8:30 a.m. on June 15.

Topics will include: Psychiatric Education of the Non-Psychiatrist, The Multiple Roots of Emotional Illness, The Psychopharmacology of Depression, *etc.*

For further details, please write to the program chairman, Wilfred Dorfman, M.D., 1921 Newkirk Ave., Brooklyn 26, N. Y.

DR. BLAIN JOINS PENNSYLVANIA HOSPITAL STAFF.—Morris Cheston, Esq., Chairman of the Hospital's Board of Managers, announced that as of April 1 Daniel Blain, M.D., director of mental hygiene for California since 1959, takes up his new position

as director of psychiatric planning and development at the Pennsylvania Hospital.

Dr. Blain will head a commission for the study of psychiatric services of the Hospital and the Institute in relation to the community. Members of the committee include Dr. Lauren H. Smith, head consultant for medical development of the Institute, Dr. J. Martin Myers, medical director of the Institute, certain other members of the medical staff of both divisions of the Hospital and representatives of non-medical persons in the community.

CENTRAL NEUROPSYCHIATRIC HOSPITAL ASSOCIATION.—During the meeting in Chicago March 14 and 15, 1963, the Association, which is made up of 19 private psychiatric hospitals, elected the following officers for 1963-64: President, Ralph S. Green, M.D.; President-Elect, B. Cullen Burris, M.D.; Secretary-Treasurer, George T. Harding, Jr., M.D.

DR. GREENBLATT GOES TO BOSTON STATE HOSPITAL.—Dr. Milton Greenblatt, a native of Boston, and who for many years has been closely associated with the Boston Psychopathic Hospital, which, when it was opened by E. E. Southard in 1912, was administratively a division of the Boston State Hospital, becoming in 1920 an independent institution, has been appointed superintendent to the Boston State Hospital. Dr. Greenblatt takes over this new responsibility as of April 1, 1963.

CORRECTION.—Through a printer's error the first line of the next to last paragraph on page 1002 in the April 1963 issue of the Journal appeared incorrectly. The line should have read "Another interesting parallel between the . . ."

BOOK REVIEWS

THE LIFE AND WORK OF SIGMUND FREUD.

By Ernest Jones; edited and abridged by Lionel Trilling, and Steven Marcus. (New York: Basic Books, 1961, pp. 541. \$7.50.)

The purpose of an abridgment, to retain in shortened form the essential content, the spirit and style of the original, has been admirably fulfilled. The task of the editors of the abridged biography (541 pages) has not been an easy one. Documentation and identification of sources taking much space in the original edition have been omitted; likewise the surgeon's notes about treatment of Freud's neoplastic disease.

Occasionally something of greater importance has been omitted. The chapter on Freud's initial and later abandoned "theory of the mind" is in this reviewer's opinion interesting enough to have been retained. One would also like to find Jones' estimate of Freud's personality, written originally shortly after Freud's death, and partially reproduced in Volume 2 of the 3-volume edition. It also would have enhanced the value of the abridgment if at least the chapter on religion in Volume 3 had been retained. This chapter shows clearly the profundity and the courage of Freud's atheism, his views on the relationship between religious ritual and neurotic mechanisms and his identification with Moses which in his later life took the place of the earlier Hannibal identification.

The elimination of most of the letters does no harm but it might have been worthwhile to include Freud's letter to Marie Bonaparte in which he states his belief that major psychoses cannot be treated by psychoanalysis, and predicts somatic therapy for this group of disorders.

The abridgment would have gained by the elimination of the inaccuracies and misspellings of names in the original edition. The name of the German general who at the end of the war saved Paris from the destruction ordered by Hitler, and to whom therefore the entire civilized world is indebted, was von Choltitz, not von Cholbitz. The psychiatrist who was drowned in his effort to prevent the suicide of King Ludwig II was von Gudden, not von Gudelers. (Gudden's name continues to be remembered by those even slightly familiar with neuroanatomy by Gudden's Commissure.) In writing to Pfister, Freud commented on Pfister's analysis of the Count of Zinzendorf, not

Zizendorf. The outstanding novelist whom Freud read was not G. F. Meyer, but Conrad F. Meyer. The quotation from Goethe in Freud's letter to Einstein should read: "Im Vorgefuehl," instead of "ein Vorgefuehl." Jones is at odds with the Latin language and forms the atrocious adjective "sexicum," and Trilling and Marcus have perpetuated this monstrosity in their abridgment.

Freud's art collection shown in one of the excellent photographs should not have been designated as primitive art since obviously it consists chiefly of Egyptian, Assyrian and classical pieces.

The present volume is divided into 3 books which correspond with the 3 individual volumes of the original. Book 1 covers the formative years and the great discoveries (1856-1900), Book 2, the years of maturity (1901-1919), and Book 3, the last phase (1919-1939).

Although Freud has expressed himself against being made the subject of a biography, the biographical material is exceedingly ample. Jones describes both Freud's life and work on a basis of complete familiarity and states that his respect and admiration for Freud's personality and his achievements were immeasurably great. Jones believes that his own hero-worshipping propensities had been worked through before he encountered Freud. In this belief he is quite obviously wrong. As a matter of fact Jones' attitude towards Freud is frankly idolatrous, and lends a personal note to the book. For critics of Freud or of psychoanalysis Jones has no understanding nor mercy. He speaks of "ill natured people," and of "distortion" and of "mendacious legend." He does not forget to record Kretschmer's early rejection of Freud's teaching, but omits to mention that later Kretschmer integrated the essentials of Freud's thinking into his own.

If one would ask what on the basis of this biography emerges as the outstanding feature of Freud's life and character, the answer would be the enormous complexity of the personality and the heroic design of his life. The heroic attitude, evolved in childhood, was never abandoned and carried on to the last. The boy identified himself with Hannibal, the tragic semitic hero. This identification which in conjunction with other factors undoubtedly was instrumental in forming Freud's heroic attitude also led to peculiar, almost immature inhibitions. On his first visit to his beloved Italy

Freud stopped at Lake Trasimeno, the ground of one of Hannibal's most famous battles, but did not proceed to Rome, just as Hannibal had not succeeded in reaching Rome. When Freud eventually entered the eternal city it was an exhilarating triumph (as if Hannibal had succeeded). It was at the same time that Freud with the urging of friends and the help of patients could bring himself to make a determined and successful attempt to achieve professional rank. Freud's stay in Rome furnishes another proof of how unobjective this heroic genius could be. He admired to the utmost the relics of ancient Rome. He detested the Papal Rome because of his dislike of any religion, and particularly of the "lie of salvation." At the same time he admired Michelangelo, apparently forgetting how much Michelangelo had been part of Papal Rome.

Similar immaturity and prejudice is evident in Freud's whole-hearted condemnation of and dislike for America. He blamed American food for his nervous indigestion which on occasions plagued him all his life. He criticized the bathrooms in America and called America: "A mistake, a gigantic mistake."

Never, however, did he lose his love for England, English history and literature.

And there is the true heroism in the never ending search for truth against all obstacles, feeling bitterly the rejection by his colleagues. In this diligent search he did unhesitatingly sacrifice earlier theories if this became necessary. The search for truth was coupled to a virtually religious faith in reason, its ultimate power and victory. While Freud believed that he was as objective and scientific as his admired old master, the physiologist Brucke, he did not hesitate to subscribe to Jones' suggestion of a formation of a committee to watch over "my creation," when the defection of some of his disciples had shown that even from within the movement the dogma was not unassailable. The members of the committee were bound together by the gift of Greek intaglios which were fitted into rings. Freud wore one with the head of Jupiter. What a strange group this committee was. Jones tells how the idea of its formation occurred to him on the basis of his past preoccupation with Charlemagne and his Paladins. The other members will hardly evoke such heroic associations. Ferenczi ended in a homicidal paranoid psychosis, hallucinating that messages came to him from across the Atlantic. A letter of censure which Freud sent to Ferenczi still makes interesting reading. This was the man whom Freud originally had called his Paladin and secret Grand Vizier. Then there was Abraham who allowed himself to be oper-

ated only on a day fitting the numerological calculations of Fliess, Freud's friend of the early period. And Rank who sent a young American home to practice psychoanalysis after 6 weeks' training. When Jones expressed his disagreement Rank shrugged his shoulders saying: "One must live." Of Brill Freud once said: "Brill is behaving shamefully, he has to be dropped."

Jones having been part of the committee and part of the movement seemed to be almost unaware how much the various neurotic immaturities contrast with features of greatness and the profound depths of insight which led to the discovery of the unconscious.

Part of Freud's basic heroism reveals itself in his intellectual courage and the capacity to admit and face the evil of life, to bear the 18 years of extreme pain, "a little island of pain floating in a sea of indifference," suffering repeated surgical procedures with unparalleled fortitude. How strongly Freud held on to the heroic ideal under most adverse circumstances is evidenced, when the old chronically ill refugee on his way from France to England dreamed that he was landing at Pevensy. He explained to his son that this was the place where William the Conqueror had landed. Years before he had said: "I am nothing but by temperament a conquistador."

Next to the heroism and the passion for truth Freud's absolute honesty and integrity as well as his simplicity appear as outstanding characteristics.

In certain aspects Jones is possibly unsuccessful, lacking deep enough knowledge of German language and culture. While he praises Freud's style his discussion of Freud's truly magnificent gift as a writer is very brief. He omits practically completely Freud's cultural background, mentioning Schopenhauer briefly and C. G. Carus not at all.

The description of Freud the neurologist is thorough and interesting. Freud was far ahead of the majority of his colleagues when in his studies on aphasia he expressed the opinion that centers were nothing more than nodal points in the general network. The introduction of the medical use of cocaine, the work on infantile cerebral paralysis, the gold chloride stain, and even the early work on Reissner's cells in petromycon which Freud proved to be spinal ganglion cells are thoroughly described. Bernard Sachs who later was such a bitter enemy of Freud praised the work on infantile cerebral palsy as masterly and exhaustive.

The book by Jones has to be evaluated in 4 different categories: 1. As a biography in the narrower sense it is exhaustive. The author

knew Freud intimately, knew his family very well and had access to all important material. He has worked this into an extremely well told and fascinating story.

2. As a character study the book is influenced by the author's idolatrous attitude. Jones sees Freud probably in many ways as Freud saw and desired to see himself. Sources other than Freud's and his closest followers' writings have been neglected.¹

3. Jones mostly sees in Freud the heroic scientist, not the intuitive thinker, writer and seer. He is hardly ever aware of the unbridled phantasy which at times dominated the thinking of the man who as a physiologist and neurologist had tried to apply strictest self-discipline. Jones never stresses sufficiently to what great extent Freud's edifice has been built on introspection. A famous Academic Lecture comes here to mind, and needless to say, even the most serious critics of Freud find no hearing in Jones' book. To what grotesque results Freud's phantasy could lead becomes evident in his letter to Thomas Mann written in 1936. This letter is only to be found in the 3-volume edition.

4. Finally Jones also gives a fairly thorough history of the movement, and even of the Verlag (this fourth category could be eliminated from future 1-volume editions without loss).

In this reviewer's opinion the main value of the book rests in the extensive biographical narration. In critical understanding of Freud's creation and its impact Jones' voluminous work has been clearly surpassed by Erich Fromm's brief and lucid study. As stated at the beginning of this review, the abridgment has achieved its purpose to the full extent and is a notable achievement within itself.

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MOHAVE ETHNOPSYCHIATRY AND SUICIDE: THE PSYCHIATRIC KNOWLEDGE AND THE PSYCHIC DISTURBANCES OF AN INDIAN TRIBE. By George Devereux. (Washington: Smithsonian Institution, Bureau of Am. Ethnology, Bull. 175, 1961, pp. vi + 586, 10 plates. \$3.25.)

The Mohave Indians, now mostly resident on a reservation in Arizona, have been the sub-

ject of a long series of scientific papers by the distinguished anthropologist George Devereux. These papers have described various aspects of Mohave culture which are relevant to the interests of a psychoanalytic anthropology: Mohave sexual customs, Mohave dreams, Mohave profanity, Mohave pregnancy, etc. The present volume undertakes to present the material on Mohave mental disorders and Mohave psychiatric beliefs and practices. It is based largely on material collected during several extended field trips in the 1930's; it is of methodological interest to mention that at this time in Devereux's scientific career, he remarks, he was sceptical if not hostile to psychoanalysis. Thus the psychoanalytic framework of interpretation which characterizes the present volume does not imply a pro-psychoanalytic bias in the collection of the primary data (although, perhaps, by psychoanalytic principles, an anti-psychoanalytic bias might achieve a similar result!).

The volume is divided, fundamentally, into four parts: 1) a preliminary presentation of Mohave ideas, in the context of their traditional world view, concerning mental disorder and its treatment; 2) the presentation of case materials (well over a hundred individuals are represented) classified according to traditional Mohave categories; 3) discussion of these and other case materials classified according to "occidental" disease categories; and 4) an extended presentation of case materials, with associated discussion, of the several types of suicide recognized by the Mohave. It may be noted that Devereux introduces his work with the claim that it is "the first systematic study of the psychiatric theories and practices of a primitive tribe . . . a kind of 'Mohave textbook of psychiatry,' dictated by Mohave 'psychiatrists' to the anthropological field worker." The claim is valid: while there are many partial accounts of the psychopathology and psychotherapy of primitive peoples, none approaches this monograph in thoroughness of detail based on original field work. Read in the context of Devereux's and others' ethnographic accounts of traditional as well as reservation Mohave life, the volume is undoubtedly a fundamental source in ethnopsychiatry.

The evaluation of the volume with regard to its methodological, interpretive, and theoretical content, is not easy. There are technical shortcomings, chargeable not so much to the anthropologist as to the circumstances of ethnological field work: the case materials, for instance, were in many cases not derived from first-hand observation but from descriptions provided by the anthropologist's several prime

¹ It is interesting to note that a recent publication (*Sigmund Freud's Akademische Laufbahn im Lichte der Dokumente*. Josef Gicklhorn and Renee Gicklhorn. Wien: Urban & Schwarzenberg, 1960.) reveals facts which are entirely different from what already has been considered uncontroversial, historical truth.

informants; and the case materials, with the associated commentaries of the informants, are (laudably enough) the backbone of the study. The interpretation of a given phenomenon mingles, sometimes in uncertain proportion, inferences about Mohave culture and basic personality structure and deductions from both psychoanalytic theory and Mohave ethnography. Thus it is difficult to evaluate the degree to which Mohave "theories" of psychodynamics are on the one hand, conscious cultural formulations which duplicate, in some respects, occidental psychiatric theory, and on the other hand are simply local expressions of a pan-human psychodynamic pattern. But the richness of the case and interview materials, and the interest of the theoretical suggestions and insights contributed by the author, make quibbling over methodology an ungrateful talk. Devereux's work is recommended as essential reading for any anthropologist or psychiatrist interested in the forms of mental illness, and practices of psychotherapy, of non-western peoples.

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MELANCHOLIE ZUR PROBLEMESCHICHTE TYPOLOGIE PATHOGENESE UND KLINIK. By Hubert Tellenbach. (Berlin: Springer-Verlag, 1961. DM 39, 80.)

The modern 'anthropological' approach to psychiatry holds a special appeal for an important group of German-speaking psychiatrists. Some of its merits and defects are exhibited by this monograph in which the author, one of the younger generation, has made an attempt to take a new look at the old and fundamental psychiatric problem of depression. Dr. Tellenbach's study is essentially clinical with strong philosophical connections. From anamnestic data relating to 119 depressed patients seen at the Heidelberg Psychiatric Clinic in 1959 he attempts to elucidate the sequence of phenomena which lead into states of depression which he views as restricted modes of living. The patients' pre-morbid personalities exhibit a constitutional rigidity; in 'pre-depressive situations' they flounder in a form of vital stasis; at the onset of the illness they are overwhelmed by morbid doubt. The dynamics of this sequence are discussed speculatively in terms of the special meaning attached by the author to the word 'endogenous.'

As an exercise in 'understanding' psychology the clinical thesis is presented with subtlety and some erudition. Dr. Tellenbach is well

enough acquainted with the roots of his subject to provide an interesting historical introduction and his bias towards Zutt and von Gebsattel does not blind him to the contributions of Kraepelin and Lange. Nonetheless, the study remains more stimulating than convincing. Much of the clinical reasoning turns on the specificity of the phenomena described and their relationship to each other. This cannot be clinched by the case-history method of argument, backed up as it is by an acrobatic use of language in which the word tends to follow the concept. The reader must be prepared to master the meaning of terms like *Ordentlichkeit*, *Inkludenz*, *Remanenz* and *Endokinese*, and to grapple with such key sentences as the following: "Die Seinsart des Endon—wie auch die der grossen Endogenität der Natur—ist transsubjektiv und deshalb metapsychologisch, transobjektiv und deshalb metasomatologisch." He is left wondering to what extent new and elaborate labels are being affixed to old and familiar bottles and, noting that all but 8 of the 197 references are in the author's native tongue, he may perhaps recall the unanswered question posed by the late Dr. Mayer-Gross: "Why can one express this form of psychiatry only in the German language?"

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LA TERRA DEL RIMORSO. By Ernesto de Martino. (Milano: Il Saggiatore, 1961, pp. 439.)

Tarantism, which traditionally is defined as a disorder characterized by an uncontrollable desire to dance under the influence of musical arias (tarantellas) following the supposed bite by a spider, was apparently very common in the 16th and 17th centuries in the region corresponding to the heel of the Italian peninsula (where the city of Taranto is located). In the past centuries there has been very little mention of it so that it was believed by many to have entirely disappeared. Ernesto de Martino, a distinguished Italian ethnologist already known for some very important contributions to cultural manifestations of Southern Italy, has led a research team (composed of a cultural anthropologist, a psychiatrist, a social worker, and a musicologist) on a field investigation of tarantism in several towns around Taranto. About 20 subjects suffering from tarantism have been followed and their manifestations carefully recorded, not only verbally in the text but also in many illustrations and on a phonograph record of the tarantellas which add

value and clarity to this publication. Furthermore, the author has presented a detailed historical survey of the literature on tarantism, stressing in particular the contributions of those (such as the great physician, Giorgio Baglivi) who have studied this subject in the past. In discussing the various aspects of the ritual on tarantism (the craving for colors and water, the crisis marking the passage from immobility to phrenetic dance, the symbolism of the spider and the identification with it on the part of the patient, the cyclic reappearance of the phenomenon in coincidence with the time of the harvest), he has made an attempt to place them in the historical and geographical context of the tradition of the healing role of the dance and music in the Mediterranean areas. While pointing to the derivations and affinities between tarantism and the Greek Dionysiac mysteries (which also provided relief to emotionally disturbed people through a stronger cathartic abreaction), he warns against a fallacious "reduction" to a general type of cultural pattern or to surviving elements of previous cultures.

For our purpose, the description of the behavioral expressions—and, in general, of the personality—of the subjects is of particular importance. In spite of the attempt made by de Martino to secure the cooperation of specialists in different disciplines relating to human personality, their contribution to the book is definitely a very insufficient one in comparison to the rest of the book. The few Rorschachs administered to the subjects are reported only partially, and the conclusion reached is that "It is impossible to pass a judgment neither on the intelligence nor on the personality of these patients, and even less on their 'normality' or 'abnormality.'" Similarly, the psychiatrist of the team, after having rejected as oversimplification the statement that tarantism occurs in people particularly predisposed and that its meaning is to permit the release of anxiety and conflicts through the stereotyped ritual, oscillates between a psychiatric (anxiety hysteria, delusion) and a cultural interpretation of it. Perhaps a better position from a psychiatric viewpoint is reached in the first part of the book where the emphasis is put on the unconscious guilt feelings of the patients affected by tarantism and on the ways of discharging them (hence the title of the book—*La Terra Del Rimorso*, namely, "The Land of Remorse" where "remorse" is understood both in its usual as well as in the literal meaning of "biting again"—Latin *rimorsus*). On the whole, this last part of the study particularly reflects the hurry (three weeks) with which the field investigation has been conducted and, in gen-

eral, the discrepancy between the wealth and depth of the ethnological material and the scarcity of the clinical material. This inadequacy is not overcome by the brilliant style—though too philosophical and too existentially oriented—used by the author throughout the text. One wonders whether it would not have been more effective to study even very few cases longitudinally, *i.e.*, on the basis of a very careful and anamnestic history and of a deeper individual relationship, thus possibly throwing light on the previous emotional experiences of each subject. Perhaps this approach would have helped to answer the basic questions which, I am sure, are in the minds of many psychiatrists: What was the early development of these individuals? What kind of experiences did they go through in adolescence and later on? What previous contacts with tarantism had each individual? Is the basic personality of these subjects functioning cyclically? and so forth.

These considerations, however, do not intend to be a criticism of the study; on the contrary, in view of the scarcity of well-prepared psychiatrists and psychologists in a country like Italy, where there has been no time to integrate properly the psychodynamic theory of behavior into the culture of the country, this remains a very important contribution to culture anthropological studies. Furthermore, it is one of the few dedicated to an aspect of our western culture and its connections with its Greek antecedents, rather than to alien cultures.

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THE GYNECOLOGIC PATIENT: A PSYCHO-ENDOCRINE STUDY. By Somers H. Sturgis, with Doris Menzer-Benaron, et al. (New York and London: Grune & Stratton, 1962, pp. 240. \$7.75.)

This book presents a study of the gynecological patient on the basis of the total physiological response to disease. Services have been organized at Peter Bent Bingham Hospital, Boston, so that in addition to a thorough endocrine investigation, close co-operation between gynecologist and psychiatrist permits a basis for study and the control of certain functional disturbances emphasizing psychological features which have often received only cursory consideration.

With some reason the senior author points out that the young gynecologist or surgeon is often so impressed with the importance of surgical techniques that he fails to give any

consideration to fundamental reactions on the part of the patient which, if controlled, may well obviate too active treatment and so modify the use of measures which may set up a chain of reactions to the detriment of the long term welfare of the patient.

The first section of the book deals with functional disturbances such as amenorrhea, dysmenorrhea and premenstrual tension while the second section presents the emotional reactions which may be associated with the treatment of conditions having a demonstrable pathological basis. It is emphasized that the complete recovery of the patient may be complicated because of the failure to appreciate these important factors.

The book presents a series of case reports with endocrine and psychiatric summaries and a summation of the problems which have been so illustrated. There can be little doubt as to the value of this rather unique style. It is certain to leave a new conception of the importance of fundamental factors which have contributed to the problem presented by the patient and how they may affect the measures to be adopted for the restoration of her health in mind and body.

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THOUGHT AND LANGUAGE. By *L. S. Vygotsky*. Ed. transl. by *Eugenia Hanfmann*, and *Gertrude Vakar*. (New York: M. I. T. Press; New York and London: John Wiley, 1962, pp. xiii + 168.)

A most challenging and difficult book to review; perhaps its review belongs to the later psychological historian and political scientist; or, at the moment, to the author of the introduction, Jerome S. Bruner, who makes a very good case pro Vygotsky.

Vygotsky is dead, since 1934. His brief span (some ten years) of urgency in the field of psychology (particularly "cognitive" psychology) provides a link between Ach and the Wurzburgers, on the one hand, whom he obviously espoused, and the "more modern" experimentalists like Luria; possibly including the late Kasanin as a relatively modern U. S. A. clinician.

Political Science would, I am sure, question the statement (on the American jacket of the book) that Vygotsky's thought "has been a major influence on modern Soviet psychology." However that may be, I (the reviewer) cannot recognize his influence on present-day U.S.S.R. psychology. So, I leave it to later historians.

The early paragraphs of this work stress the

importance of the inter-relation of thought and word. Did not Socrates wrestle with this same problem? Or was it not the same?

Vygotsky then tries to interpret Piaget, which intrigues Piaget to say (in a supplementary statement to the volume) "I didn't quite mean that, but he makes me think again." This supplement is the best reward for buying the book!

The chapter headings are as follows: 1. The Problem and the Approach; 2. Piaget's Theory of Child Language and Thought; 3. Stern's Theory of Language Development; 4. The Genetic Roots of Thought and Speech; 5. An Experimental Study of Concept Formation; 6. The Development of Scientific Concepts in Childhood; 7. Thought and Word.

This is where we came in.

I'm not so sure where we came out. Except that I am glad the editors and translators have produced this volume. Vygotsky was a great man. His sponsors were not of his own choosing. Only history can acclaim or disclaim him.

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MENTAL ILLNESS IN LONDON. By *Vera Norris*. (New York: Oxford University Press, 1961, pp. 317. \$9.50.)

This volume presents statistical analyses of the operation of two observation units and the three mental hospitals receiving their patients from about half the geographic area of London, with 1.6 million population. It includes a five-year follow-up of patients by means of official records which can indicate whether or not readmission to hospital has occurred. The mental hospitals received patients from the observation units as well as from other sources; the observation units received patients from general hospitals and other referral sources. The statistical analyses in the volume are not overly complex and are clearly set forth. They are worth careful perusal as an introduction to the complexities of recording the movement of human beings through a social system over a period of time and of the necessity for the avoidance of the pitfalls that await the unwary investigator of such phenomena.

Dr. Norris concluded that diagnostic practices in psychiatry were not so inaccurate and unreproducible as to be useless. Overall, diagnosis was the same (using a relatively rough, 11 group classificatory scheme) in the observation unit and the mental hospital receiving the patient, with identity varying from the high of 85% for schizophrenia to a low of a little more than 40% for "Disorders of Behavior and

Character" (disregarding the miscellaneous group). While it is heartening to encounter a defense of the usefulness of classification in psychiatry again, it must be admitted that the differences between one and another group diagnosing the same patient are still large enough to make the interpretations of comparative statistics a very chancy thing. Furthermore, comparison of results of treatment or management is possible only if the differences are very large if one is to be reasonably certain that diagnostic practice cannot explain them rather than differences in therapy.

The follow-up results are, in general, discouraging and Norris felt they by no means justified the optimistic opinions so frequent in recent years. It is not on this book that the English estimate is based that hospital beds can, over the next decades, be greatly reduced. Norris found that even in the most hopeful group of psychotics, the manic-depressives, success in the sense of no readmission to hospital was not outstandingly good, with 40% undergoing readmission within four years of discharge.

The work pays unusual attention to death associated with the psychiatric illnesses and the data are instructive. Even in manic-depressive psychoses the crude death rates are about seven times that of the age-corresponding general population. The observation units obviously receive very ill patients with many dying in the first few days or weeks; indeed these deaths before transfer are interpreted as a relief to the mental hospitals where the cases would otherwise have to be admitted. One wonders whether it might not be even more economical to allow them to die in the general hospitals rather than be transferred at all. In general, Norris lends emphasis to the fact that death rates are definitely higher in the presence of psychiatric illnesses. Of course, they are highest in the organic psychoses.

The book contains a chapter on the uses of statistical studies in administration. It comes to the inescapable conclusion that the present situation and prospects are intolerable and that, while improvements must be made in patient care, the real hope for the future lies in research on better ways of prevention and treatment. The arguments in favor of heavy expenditures in research efforts are certainly impressive.

One cannot call such a book as this inspiring but it is certainly one that deserves very careful study; it is an antidote to uncontrolled optimism in our field.

PAUL V. LEMKAU, M.D.,
The Johns Hopkins University.

BASIC ANXIETY. By *Walter J. Garre, M.D.*
(New York: Philosophical Library, 1962,
pp. xv + 123. \$5.00.)

The mother who not so rarely experiences the infant as an encumbrance is the significant person in its life. Feeling that its existence is threatened by the significant person, the infant "will fear death." "The anxiety that the infant must feel to some degree at least I call the 'basic anxiety.'" The author considers "this basic anxiety . . . the key to personality adjustment, the focal point of our difficulties in orientation, the cause of our diseases and maladjustments, and in fact the central point in the adaptation of humans to life."

Although the author uses the term "unadulterated anxiety" in passing he does not seem clearly to discriminate anxiety and fear. He also writes repeatedly about the child when according to his leading idea one would expect him to deal with the infant. Nevertheless this is an interesting treatise which may do no harm. The author seems to be haunted by his concept as though it were a clue to a framework of human life in which everything could find its predestined place.

His discussion is one of many interpretations. One wonders whether he does not think that he is explaining facts.

EUGENE KAHN, M.D.,
Houston, Texas.

BASIC ENDOCRINOLOGY FOR STUDENTS OF BIOLOGY AND MEDICINE. By *J. H. U. Brown,*
and *S. B. Barker.* (Philadelphia: F. A. Davis, 1962.)

The authors have written an excellent textbook covering the essentials of endocrine gland functions. Primarily oriented to students in physiology or medical courses, the material is essentially a presentation of normal human endocrinology. Biochemistry, synthesis and metabolism of the hormones, their specific physiologic effects and the normal interrelations of the endocrine glands are presented clearly and concisely. Some of the common disturbances of glandular function, cited as evidence for hormonal effects, contribute to the student's understanding of the normal state. However, the authors have explicitly and successfully avoided compiling a textbook of clinical endocrinology.

Sections covering hormone assays and other indices of endocrine activity are simply and precisely presented. Suggested experiments illustrative of endocrine physiology should prove valuable to both teachers and students.

Some of the schematic simplifications of

complex biochemical interrelationships are not completely successful. When diagrammatic presentation is possible only at the expense of extensive omission of modifying data, it might better be avoided in order not to introduce questionable hypotheses. This small criticism, however, detracts little from a valuable book, well printed in an inexpensive format.

R. C. MELLINGER, M.D.,
Henry Ford Hospital,
Detroit, Mich.

THE GROWTH OF SELF-INSIGHT. Edited by John M. Dorsey. (Detroit: Wayne State University Press, 1962, pp. 220. \$5.00.)

The book constitutes Volume X of the Leo M. Franklin Memorial Lectures. It consists of a symposium by John M. Dorsey, Lectureship Chairman for 1959-60, and four co-authors, on Human Individuality. Bernard Mayo, professor of history, University of Virginia, contributes "Jefferson's Faith in Human Integrity." Wilbert Snow, Poet of the Maine Coast, gives "Individuality in the Work of Ralph Waldo Emerson." Milton Rosenbaum, Albert Einstein College of Medicine, discourses on "The Whole Individual, a Health View." Harold A. Basilius, professor of German, Wayne State University, discusses "Goethe's Conception of Individuality and Personality." Editor Dorsey presents an essay on "The Growth of Self-Insight." His intimate, inimitable style makes for difficult reading. Within that diction, however, is outlined a medical and psychiatric philosophy which is deeply personal Dorsey. He combines the basic best of psychoanalysis, existentialism, intuitionism, solipsism, and individualism. The palatability of his philosophy is still a little rough in spots; its digestibility somewhat refractory at times; but, these approaches mastered, its assimilability is achieved. Dorsey truly gives substance to the words of Herodotus: "The destiny of man lies in his soul."

The medical philosophy recorded in the little volume well deserves a place in the professional literature of today.

THOMAS J. HELDT, M.D.,
Detroit, Mich.

MODERN CONCEPTS OF HOSPITAL ADMINISTRATION. Ed. Joseph Karlton Owen. (Philadelphia: W. B. Saunders, 1962, pp. 805.)

There were seventy-two contributors to this text, some with long years of experience, others comparatively new to the field of hos-

pital administration. The various facets of hospital administration are broadly covered in an interesting and informative manner. Some of the subjects are not dealt with in any great detail but they are all well covered, written with apparent enthusiasm, conviction and presented with a common sense approach. There are several subjects that have not been considered in other texts that are well timed for current interest and needs. Amongst these are Community Planning; The Hospital Insurance Programme; Physical Medicine and Rehabilitation; Care of the Mentally Ill; Home Care; Formal Education for Hospital Administration; Current Trends in Administration.

There are, as one might imagine, statements made to which exception may be taken. This is, of course, to be expected and is thought provoking and helpful.

This is a book which in my opinion one will find extremely useful, no matter what one's level of responsibility in the field of hospital administration may be.

JOHN E. SHARPE, M.D.,
Toronto, Ontario.

THE FUTURE OF PSYCHIATRY. Ed. by Paul H. Hoch, and Joseph Zubin. (New York: Grune & Stratton, 1962, pp. 271. \$8.75.)

In a field like psychiatry, where knowledge is fragmentary and constantly changing and speculation abounds, the task of predicting future developments can well make the stoutest hearts quail. As Greenblatt in his excellent contribution to this symposium puts it: "... any attempt to peer into the future at this point involves judgments about a sea of unknowns that frighten one into abject humility."

Ideally such a task should be given to the young, whose imaginations are still fresh and who have the rashness of youth. But their lack of experience would give their words little weight, so one turns perforce to "authorities" who will be heard with respect. To become an authority takes time, so, as might be expected, about half the contributors to this volume are over 60. This may be related to the book's rather conservative tone. On the sound premise that prediction of the future must rest on knowledge of the present and past, most of the contributors offer historical or contemporary surveys of their own bailiwicks or review their own work. With a few notable exceptions, however, they avoid predictions or tack them on as perfunctory afterthoughts. The contributors cover biological, psychological, social, and educational approaches. The expert in any par-

ticular field will learn little from the paper on that field, but taken together these surveys perform the valuable service of bringing the reader up to date in areas not his own.

They reveal that knowledge of the biological basis of psychiatry is increasing at a fantastic rate. The development of microtechniques in neuroanatomy, neurophysiology, and biochemistry is yielding increasingly detailed understanding of the relations between structural and functional properties of the nervous system, subjective states and behavior. Microtechniques are also revolutionizing the study of human genetics. The data garnered by old and new methods are analysed by electronic computers that can handle vastly more information than ever before. These are rapidly unearthing new relationships in all aspects of human functioning—social and psychological as well as biological.

New techniques for gathering and processing data have stimulated the development of new conceptual schemes such as information theory and cybernetics. Rioch, in a richly thoughtful and well documented presentation, describes how these offer new ways of thinking about biological and psychological processes of much greater specificity and power than anything available in the past.

While many contributors stress that we are on the threshold of vastly increased understanding of human functioning, none adequately tackles the question of the possibilities of control of human behavior that will inevitably result from this increase in knowledge. Some suggest therapeutic possibilities, but all seem to avert their gaze from the noxious ones. This probably reflects the general unwillingness of scientists to tackle the unpleasant ethical implications of their activities.

The future of the sociological and psychological aspects of psychiatry looks far less spectacular than that of the biological ones. Computer techniques, in which Zubin and Pasamanick, especially, place great hopes, while slowly adding to our store of information in these fields, have yielded no major breakthroughs as yet. However, it is comforting to note that not even the most enthusiastic proponents of biological approaches believe that they will render sociological and psychological ones obsolete.

Since methods of prevention and therapy in psychiatry rest more on social and psychological than on biological information, their future does not seem to hold any major innovations either. In the meanwhile the effectiveness of preventive psychiatry remains in doubt and proposed programs, such as those offered by

Funkenstein and Farnsworth, lack a solid basis.

It seems probable that psychotherapeutic practice will be increasingly influenced by the growing recognition of the importance of social factors in psychiatric illness and treatment. The trend towards working with patients' families and others in their environment will almost certainly increase, as will the development of the social organization of psychiatric services in hospitals and communities. This implies incorporation of a variety of personnel in psychiatric treatment programs.

These developments add weight to the concept of psychotherapy as a learning process which helps the patient to correct maladaptive social communication patterns or to develop those which he lacks. As a result, psychiatrists will probably do less and less psychotherapy themselves, and function more as leaders of treatment teams or as practitioners of the new biological therapeutic interventions lying just over the horizon.

Whatever the future may hold with respect to specific advances, one conclusion, succinctly stated by Gruenberg, seems amply supported by this interesting volume: "... psychiatry in the next twenty years will become more and more influenced by empirical findings and our treatments will be selected on the basis of systematic study more and more frequently in contrast to the swings of fashion."

JEROME D. FRANK, M.D.,
Baltimore, Md.

TREATMENT OF THE CHILD IN EMOTIONAL CONFLICT. Second Edition. By H. S. Lippman. (New York: McGraw-Hill, 1962, pp. 367. \$9.50.)

* Several new subjects have been added to the second edition, including a chapter on reading disabilities and a chapter on group therapy. In addition, the author has up-dated case history reports from the first edition, giving a valuable follow-up on the effectiveness of the therapies employed.

The book is clearly written and the author has generously used case histories to illustrate and emphasize the therapeutic processes. It is to some degree uneven, undoubtedly due to the analytic and therapeutic interests of the author, who has recognized this in his preface, where he states that he has not tried to illustrate all the conditions studied in a child guidance clinic, but attempted to present a point of view towards therapy rather than a comprehensive picture of child guidance services.

Certain sections are excellent, for example,

those dealing with the neurotic child, school phobias, depressions, group therapies and reading disabilities. By comparison the sections dealing with the organic disturbances, mental retardation, and convulsions are less adequate.

Despite these minor criticisms this is a book that should be read by every physician, psychologist or social worker who is or will be involved in the treatment of children with emotional disorders.

WILLIAM A. HAWKE, M.D.,
Toronto, Canada.

DEPRIVATION OF MATERNAL CARE: A Reassessment of its Effects. Public Health Papers #14. (Geneva: World Health Organization, 1962, pp. 165. \$2.00.)

The hypothesis that maternal deprivation in early childhood accounts for much delinquency in after years is examined and the evidence on which it is based appraised by six "distinguished workers in child psychiatry and allied fields." The referee, as represented by the Preface, finds for the defence but many readers will find much food for thought in the well informed, highly informative, logical analyses by Margaret Mead and Barbara Wootton, both set forth in impeccable English free from technical terms and with deeply sympathetic but unbiased interest. This publication should make salutary and timely reading for those who are now handing out dogmatic advice regarding thalidomide victims. But there is a wider and more general field including WHO itself: the volume demonstrates clearly that students sent to this continent to learn public health should not go back with their text-books, note-books and heads filled with what we believe, have and do, but should return equipped to study the problems as they are in their native circumstances, define them, measure them, absolutely and relatively, and find solutions compatible with those circumstances and perhaps nearer the truth than those we might dictate for them.

NEIL E. MCKINNON, M.D.,
University of Toronto.

COMPARATIVE NEUROPATHOLOGY. By J. R. M. Innes, and L. Z. Saunders. (New York: Academic Press, 1962, pp. 859. \$32.00.)

This monumental work fills a need for a comparative and authoritative text of comparative neuropathology in English. Beautifully edited and profusely illustrated it contains a wealth of information valuable not only to veterinary pathologists but to all engaged in

the study of the diseases of the nervous system. With the exception of one special chapter on the neurological diseases of monkeys most of the material is organized according to the etiological factors. However, special chapters are devoted to the cerebrospinal fluid and to the disease of skeletal muscles, the hypophysis, the spinal cord and the peripheral nervous system. Wild and domesticated animals, as well as laboratory animals, are considered.

Extensive bibliography brought up to 1960 is included after each chapter.

In spite of its high price, this important book is a must not only for libraries of universities, research institutes or neuropathological laboratories, but also for private collections of all neuropathologists.

J. OLSZEWSKI, M.D.,
Professor of Neuropathology,
University of Toronto.

DETERMINANTS OF INFANT BEHAVIOUR. Edited by B. M. Foss, foreword by John Bowlby. (London: Methuen; New York: John Wiley, 1961, pp. xv + 308. \$6.75.)

This is a record of the proceedings of a Tavistock study-group on "mother-infant interaction" [sic] held at CIBA, London, in 1959. John Bowlby was the convenor, who succeeded in bringing together an important contributing and participating membership. Dr. Foss, as rapporteur for the seminar, and editor of the report, is to be congratulated on all the important characteristics underlying the purpose of the seminar and its public communication of outcomes.

The study group was built around seven prepared papers, presented by Ambrose, Blauvelt, David, Gewirtz, Harlow, Rheingold and Rosenblatt, respectively: The Development of the Smiling Response in Early Infancy; Mother-Neonate Interaction: Capacity of the Human Newborn for Orientation; A Study of Nursing Care and Nurse-Infant Interaction; A Learning Analysis of the Effects of Normal Stimulation, Privation and Deprivation on the Acquisition of Social Motivation and Attachment; The Development of Affectional Patterns in Infant Monkeys; The Effect of Environmental Stimulation upon Social and Exploratory Behaviour in the Human Infant; Early Socialization in the Domestic Cat as based on Feeding and other Relationships between Female and Young.

Discussion and improvised contributions, including a very important discussion of the film "Monique," are included.

It is not quite as much of a mixture as it

sounds, when expressed as above.

The scope and intent of the seminar are clear. Other study-groups will follow. The evaluation of the process and of the series must await further outcomes. At this stage one can welcome the meeting of minds and their researches from so wide a variety of disciplines, contributing to the same end. Naturally, there will be an unwitting clash of philosophies of *early* human development—which is quite nicely ameliorated by the final comments of Bowlby, who has demonstrated his wisdom in this regard, and to whom the behavioural scientists might well look for continued leadership.

In summary, the book is a very valuable contribution—largely from experimentalists and clinicians. One can hope for the eventual inclusion in the process of a social-scientist as philosopher.

W. LINE, PH.D.,
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ESSENTIALS OF PAEDIATRIC PSYCHIATRY. By R. Meyer, M. Levitt, M. L. Falick, and B. O. Rubenstein. (New York: Appleton-Century-Crofts, 1962.)

The title of this small book, *Essentials of Paediatric Psychiatry*, is somewhat inaccurate because it is by no means a resume or summary of current paediatric psychiatry. However, the purpose is defined in the preface—"to provide the paediatrician with understanding of both the normal psychiatric development of children and their emotional problems and to clarify his own role in relation to them. No effort has been made to present a complete picture of human development." The authors explain that they have selected issues and viewpoints which represent their own preoccupations and that they have left a great deal out of the book as it was not planned to be either eclectic or extensive. One would agree with this as the book does not present a full picture of human development, but tends to emphasize psychoanalytic concepts and to minimize the constitutional and maturational aspects of development.

Little advice is given to the paediatrician about the direct handling of the child and his role is mainly restricted to environment manipulation, particularly the counselling and support of parents. The reason for this is the feeling of the authors that the paediatrician who must be involved in physical examinations and direct medical intervention cannot also play a very different role in the psychological treatment of the child. Therefore one would suspect that most paediatricians would

find that this book does not answer many of the questions which arise in their daily practice.

Several sections of the book the reviewer felt were particularly well written, including the chapters on brain damage and mental retardation which clearly present the criteria necessary for clinical diagnosis. Several statements warrant emphasis—that the EEG frequently leads to equivocal results and rarely gives a definite answer to the question of brain damage; that the major function of psychological testing seems to be corroborative rather than diagnostic; that psychological testing does not provide a diagnosis of any disorder in the absence of other confirmatory findings, historical, case material, clinical observation, etc.

The section dealing with asthma appears to be written objectively and approaches the relationship between asthma and emotional factors critically and competently. The chapter dealing with the emotional reaction of children to hospitalization is also well documented and presents an objective and critical review of the subject.

Unfortunately there are other chapters which do not appear to be of the same quality. For example, the discussion of reading disabilities tends to ignore the maturational aspects of development which play such a large part in reading disabilities and focuses on those emotional problems which may be involved.

The section dealing with treatment is limited to approximately 12 pages which will probably not meet the needs of most paediatricians. However, considerable time is spent on the question of referral to the psychiatrist, which should be useful.

Some Certain sections have a psychoanalytic orientation and may be somewhat unacceptable to the paediatrician, who may find it difficult to accept the statement that increased frequency of urination is a manifestation of anxiety, or may be associated with the struggle against masturbatory impulses and fantasies, or an expression of castration anxiety. One would also wonder about the statement that in enuresis conditioning devices are sometimes effective but fail to deal with underlying causes and can thus only lead to transitory inhibition or new symptomatology.

In conclusion, one might say that this book presents an adequate idea of development as currently recognized by the psychoanalytic school. However, this limitation prejudices its practical value for the practicing paediatrician.

WILLIAM A. HAWKE, M.D.,
Toronto, Canada.



G. RONALD HARGREAVES, M.D.

IN MEMORIAM

**GEORGE RONALD HARGREAVES,
O.B.E., M.Sc. (LEEDS), F.R.C.P. (EDIN.)**

(1908-1962)

Many members of the APA must have met Dr. Ronald Hargreaves, either during the war, when in 1943 he visited around the army posts in this country and those in Canada, or on his more recent visits as Professor of Psychiatry at the University of Leeds, England, or perhaps at Geneva when he was Head of the Mental Health Section of the World Health Organisation. All of us therefore will have been grieved and shocked by the news of his sudden death on the 18th December, 1962, in Queen Square Hospital, London, at the age of 54, following an operation for an aneurysm which was causing pressure on his optic chiasma.

Ronald Hargreaves was one of perhaps half a dozen people in the world who made a major impression in the field of social and preventive psychiatry, and he was someone who could ill be spared.

Ronald Hargreaves was a Yorkshireman, though none of his time since early boyhood had been spent in Yorkshire until he returned to Leeds as Professor. After school, he took his medical course at University College, London, and then at University College Hospital Medical School, where he did very well. His perceptive contemporaries at the Medical School recognised that he possessed the most original mind amongst the students of his time. The sudden death of his father caused Hargreaves to postpone house appointments at his own hospital in order to earn money for the education of the younger ones in the family. He worked at Hill End Mental Hospital, St. Albans, and as clinical assistant to Dr. Bernard Hart, University College Hospital. His interest in the neuroses took him to the Cassel Hospital, and then to the Tavistock Clinic, where he was appointed a full physician in January 1938.

At the outbreak of war it was decided that a certain group of psychiatrists should

be called up as soon as possible to service in the army, and Hargreaves was one of these. During the six months of waiting for that call up he did an immense amount of reading. He read Fortescue's *History of the British Army* and, still more remarkable, procured and read the training manuals of every arm of the fighting services, in this way equipping himself with background knowledge for the work he was about to undertake.

R. Hargreaves was blessed not only with outstandingly good intelligence, but also with a phenomenal memory; and when, around Christmas time 1939, he actually came into the army, he knew more about the army's history and difficulties and background than most regular officers knew.

The work which Hargreaves did in the army, first of all as a specialist in Northern Command, and then at the War Office, was quite outstanding, and indeed, made by far the biggest contribution to the development of all the social psychiatric activities that were developed during the war. It was his experiments and work which led to the rather overdue development of a proper selection service for all men coming into the army, and later all officers who were to be considered for commissions.

Hargreaves had not merely read the history of the British army, he had also read and mastered Tom Salmon's masterly work in Volume X of the U. S. Army history of the 1914-18 war. This served as a Bible to British army psychiatry, just as later the British army was able in return to be of some help and guidance in the enlargement and development of psychiatric services in the U. S. army.

Hargreaves was distinguished by many things, but certainly by a healthy determination to see the right thing done, if at all possible, and it was fortunate that he very quickly won the complete confidence

of the General of the Northern Command, who later became Adjutant-General of the British army (Sir Ronald Adam).

In 1943 he came over with Brigadier Rees, who was the Consulting Psychiatrist to the army, on a visit to the U. S. and made a tour, along with General Brock Chisholm and some of our Canadian colleagues, to the Canadian military posts as well as those of the U. S. army. They got permission for William Menninger, then Consultant at Atlanta, to go with them, and teased him much about being just a clinician when there was a war on, with the result that Colonel Menninger (as he then was) found himself whilst in Canada let in for all kinds of soldierly activities which he had only envisaged before, but which gave him increased insight into the life of the combatant soldier and officer.

Hargreaves' visit to America on that occasion was of value to him, in that he saw many things that might be copied in the British army, some that he did not want to copy, and at the same time it established for him many excellent friendships which persisted through the years with psychiatrists and others in the U. S. A.

When the war ended, Hargreaves was appointed O.B.E., though many people thought he should have had a higher decoration for his immense contribution to the health and welfare and morale of the British Army. He then took on the job of Senior Medical Officer to the great international firm of Unilever, where he was faced with many problems not altogether dissimilar to those in the British Army, but in an industrial setting. With some heart-searching, he allowed himself two years later, in 1949, to be taken out of this job, to undertake, at Dr. Brock Chisholm's request, the work of first Chief of the Mental Health Section of WHO in Geneva. Here he again did a brilliant job, of quite a different kind. His erudition and knowledge, his interest in every branch of medicine (for he was never at any time limited to psychiatry or to analytic procedures) created very firm foundations for the mental health work of the organisation. The Expert Committee meetings which he organised produced reports, for the writing of which he was largely responsible, which have had

a lasting influence throughout the world in upgrading the concept of psychiatry and the therapeutic community and community services.

I remember very well sitting in his room in Geneva one day (for I was often there) discussing the joint operations of the World Federation for Mental Health and WHO. During an hour's talk five or six people came into the room, and would have withdrawn quickly, seeing that he had somebody with him; but he beckoned them in, and they had just come to return some books he had lent them, of which they had read the special pages or parts which were relevant to their particular problem, and wanted to tell him of the kind of plans they had formulated for their sections in other branches of medicine, on the basis of discussion with him. Consequently, on what was about the smallest budget of any section of WHO, Hargreaves produced an enormous amount of good work, because the other sections—public health, nursing, education, health education, *etc.*—ran projects which, because of the influence and advice of Hargreaves, became in fact mental health activities; but they ran on their own budgets and not on his. This has always seemed to me to be a very impressive activity, and one which many of us could try in our own circles to copy.

The illness of his wife prevented him from travelling as much as he would have liked, but whenever he did travel he left behind him a wealth of good feeling and a great deal of wisdom, and he was enabled to encourage the arrangements for consultantships and fellowships to be given to countries where they could do the maximum good.

After five years at WHO, Hargreaves decided to apply for, and was appointed to, the Chair of Psychiatry at Leeds University, where he did a remarkably fine job in building up a sound, very high grade team to work with him, excellent education, very good relationships with his colleagues in the faculty and, what is perhaps just as important, very good and helpful relationships with other faculties, like Education. It was impressive, when talking to some professors from other faculties at the Memorial Service in Leeds recently, to find

some of them were deeply moved by his loss.

One could write almost indefinitely about Ronald Hargreaves. He was a very good artist, an excellent cook, a wonderful raconteur, as many people will remember. A very modest man, he was always concerned with the good of the job for which he was working rather than for himself. He was in fact a very rare person. I hope that in the future there will be many more who resemble him in some of his qualities and char-

acteristics.

Ronald Hargreaves had four children. Three are in training for special jobs. Eva, his wife, who had been a very skilled anaesthetist in the days when she was at hospital, died after a long series of operations last summer, so that now our sympathy goes to the children who are left, and to his brother, who is a general family physician.

John R. Rees, M.D.

BENJAMIN KARPMAN, M.D. (1886-1962)

Ben Karpman's death leaves a void in the ranks of psychiatry that may never be adequately filled. However friendly or unfriendly one's attitude, it cannot be gainsaid that he was among the most articulate and dedicated champions of the psychiatrically "dispossessed"—the criminal, delinquent, sociopath and sexual offender.

I had gone to St. Elizabeths in the summer of 1937 to study psychiatry and, hopefully, to become a psychoanalyst. Soon after my arrival, I was introduced to Ben in the library. He was the first "psychoanalyst" I had ever met outside the books that I had been reading since high school. When he learned I had read Steckel's "Peculiarities of Behavior" while in college, it was the beginning of a firm friendship. Ben offered to psychoanalyze me but the method he proposed did not seem to me to be comparable to what I had read. He suggested that I abstract his case material and then he would discuss the material with me and thus teach me analytic theory. We compromised by agreeing to meet in the library before the general staff conference each day for a quick chess game. In this way, he later pointed out, we were both behaving as "psychopaths" for we would hide the chess men and the board in the stacks. There was little that did not engage Ben's interest and curiosity, and at that time he published an article in the *Psychoanalytic Review* on the "Psychology of Chess." To have a dog and to be interested in dogs led to the article "The Psychopathology and Psycho-

pathological Reactions in Dogs."

Ben was unquestionably a controversial figure. I think he enjoyed controversy and had a particular genius for "upholding the opposition" to provoke others into questioning their concepts. Over the many years that I knew him he never failed to amaze me with his encyclopedic knowledge of the psychoanalytic literature and his precise and specific recall. As my own knowledge of psychoanalytic literature, and of Ben's contributions as well, deepened over the years of our association, I would sometimes catch him in what seemed to me to be a deliberate misquotation. Occasionally, with a chuckle and twinkle, he would admit to an outrageous statement intended to be provocative. On one occasion I jokingly accused him of not only misquoting Freud but of misquoting Karpman.

Many undoubtedly would accept that personally Ben was a warm, generous and kind friend. What others, not so familiar with him, did not realize was his very keen sense of humor, his tremendous fund of anecdotes and his capacity to laugh at himself and others.

While I disavowed many of Ben's techniques, I admired his dogged persistence in working with the most difficult type of patients and his enormous energy that enabled him to work 16 to 18 hours a day until the last few years of his life. He even welcomed weekends because then he could work steadily, without interruption. I believe that there are few people who would

be willing to emulate his therapeutic career.

Although not a man of appreciable means, he was known for his generosity over many years. Whenever a collection was made for any worthwhile purpose, Ben Karpman always made a substantial contribution. He was generous to his University and to the residents that he loved, even those, like myself, who frequently disagreed with him. In the tradition of Maimonides, he was very helpful to patients in their transition from hospital to community, without hope or expectation of recompensation.

Ben's lifetime spanned the development of modern psychodynamic concepts in psychiatry. In the 20's he was analyzed by Steckel (I was never sure whether it was 10 or 400 hours). Ben was as *bona fide* a psychoanalyst as any others of his day and time, although he never became a member of the American association. The late Clara Thompson, first President of the Washington-Baltimore Society in 1930, told me that he was several times invited to join, but he always preferred to go his own way.

Ben was born in Slutzk, Russia, August 8, 1886. He came to this country as a young man and had his college and medical

training at the University of Minnesota, receiving his M.D. degree in 1920. His entire professional career was spent at St. Elizabeths Hospital. He made several trips abroad for post-graduate training at the University of Vienna in the 20's, and for analysis. For a considerable period, he served as Chairman of the Department of Psychiatry at Howard University School of Medicine. He was the only, or one of the very few, psychoanalytically trained individuals who chose to spend his career in a mental hospital. He worked for more than forty years in his office in Center Building and published more than 110 papers, monographs and books.

I suppose that to the many who knew him over the years at St. Elizabeths, and to the future residents and staff members, his office will long be known as "Dr. Karpman's office" whatever use is made of it. It was in this office that he suffered a heart attack on May 23, 1962 and died early the following morning. He leaves a wife and two children, his son is a physician.

His like will not soon be seen again.

Bernard A. Cruvant, M.D.

CORRESPONDENCE OF THE A.P.A. FOUNDERS¹ROBERT E. JONES, M.D.²

The correspondence between the founders (see Appendix) of the American Psychiatric Association and its first secretary, Dr. Thomas S. Kirkbride, has never before been reviewed and summarized, yet these letters indicate the flavor of psychiatric practice in 19th century America and reveal the character of the men who managed 13 of the 20 mental hospitals then in existence.

The Historical Library and Museum of the Institute of the Pennsylvania Hospital contains approximately 5000 autograph letters(2) written from 1843 to 1865 to Dr. Kirkbride, including at least one letter from each founder except Dr. Samuel White, the first vice-president of the Association and eldest of the group, who died a few months after its founding. Only 40 letters from Dr. Kirkbride to the founders survive, preserved as press copies in two volumes of his letters, dating from 1842 to 1849. The surviving Kirkbride letters conveniently cover the period preceding and immediately following the establishment of the Association, giving some idea of the flow of correspondence and the exchange of ideas.

Dr. Kirkbride was, as well as a founder, an energetic supporter and sustainer of the Association(3). He served as its first secretary for 8 years, then as vice-president for 7 years (1855-62), and as president for 8 years (1862-70). Being the first secretary, much of the correspondence deals with the business of the Association: arranging time and place of meetings, accommodations for members, and introduction of new members.

In general, the Kirkbride correspondence was conducted in a sincere, friendly, respectful manner. The men obviously had high regard for one another and felt an *esprit de corps* among themselves in caring for the "class of unfortunates," as Francis

T. Stribling called the insane. Isaac Ray referred to the group as "brethren"; John S. Butler nicknamed them the "Old Originals." The correspondence reflects the fact that they were sensitive men who considered that they had a high calling. They had a sense of humor and could joke about regional differences, or about themselves as "mad doctors" or "insane doctors." None, of course, called himself a psychiatrist, although Pliny Earle came close by calling them "rich psychiaters." The letters are full of cordial invitations to visit one another, enquiries after one another's health and family welfare, sympathy during illness, and gratitude for visits, errands, and information.

THE FOUNDING

In the spring of 1844 Dr. Samuel Woodward, Superintendent of the State Lunatic Hospital at Worcester, Mass. called at the Pennsylvania Hospital for the Insane to see Dr. Kirkbride, the Superintendent. Dr. Kirkbride, however, was not at home, and Dr. Woodward continued his journey south to visit Dr. Francis T. Stribling of the Western Lunatic Asylum in Staunton, Va.

Dr. Stribling must have greeted Dr. Woodward with a very stimulating idea, for on June 15, 1844, Dr. Kirkbride wrote to Dr. Stribling:

During my absence I regretted to hear that Dr. Woodward had come on to see me, but have since understood that he will give us a visit on his return. Before this you will probably have seen him as he intended going as far as Virginia and Ohio.

As respects a convention of the Medical Superintendents of Insane Hospitals, I agree with you that much benefit might result from such a meeting, particularly as respects the statistics of such institutions. There are some difficulties in the way, however, and preparatory to a meeting it appears to me that all should be aware of the matters likely to be discussed and have some idea of what plans are likely to be proposed for general adoption.

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To be efficient, the action of such a convention should as far as possible embrace all the asylums of character in the country. Should Philadelphia be selected as the place for meeting, I should be very glad to do everything in my power to make all who attend perfectly at home and to see to any preparatory arrangements that may be required.

Again on July 5th, 1844, Dr. Kirkbride refers to the meeting in a letter to Dr. Stribling :

... As respects the meeting of Superintendents of Insane Hospitals I need hardly say that I shall take pleasure in joining them in any deliberations likely to promote the good cause in which we are all engaged. The time and place mentioned by you will of course be particularly convenient to me, and perhaps as you suggest it would be difficult to arrange any preliminaries previous to the assembling of the convention.

I was much disappointed and not a little surprised that Dr. Woodward did not call out to see me on his return, particularly as he scarce took a glance at our establishment on his way South, and as I had hoped from what he then said that he would have spent a few days with us on his way home.

Finally on Aug. 22, 1844, Dr. Kirkbride addressed Dr. Woodward :

I received your letter of the 17th inst. yesterday, and shall take great pleasure in making the arrangements you suggest, relative to the meeting of Physicians to Hospitals for the Insane to be held in Philadelphia in October next. I had already concluded to make an arrangement with Mr. Jones for any accommodations we might desire, and no better place for first getting together could be designated.

The meeting to which these letters refer occurred on the evening of Oct. 15, 1844, when at the invitation of Dr. Kirkbride, a group of 13 physicians, all of them superintendents of hospitals for the mentally ill, met in the parlor of his residence called The Mansion, on the grounds of the Pennsylvania Hospital. There they formulated some preliminary plans which were confirmed the following day when the group met at 10 o'clock in the morning at the Jones Hotel, which stood on Chestnut Street above 6th. At this Philadelphia hostelry the

official organization took place of the Association of Medical Superintendents of American Institutions for the Insane (a title which in 1892 was changed to the American Medico-Psychological Association, and in 1921 to the American Psychiatric Association).

On the evening of Oct. 20, 1844, the Association adjourned to meet in Washington, D. C. in May 1846. The members felt that their meeting had been a success. Dr. Samuel Woodward, who was elected the first president, wrote to Dr. Kirkbride :

... The time spent in Philadelphia was one of the most profitable and agreeable seasons that I have ever enjoyed. I trust much good will come from the convention and hope the ardour manifested at the meeting will not be suffered to cool so as to prevent full and able reports on all subjects assigned to committees.

And years later, in 1854, Ray wrote to Kirkbride :

As nature abhors a vacuum, so do I abhor that utter non-communication which frequently follows such a pleasant reunion of friends as we enjoyed last week, and so I indite you a letter, albeit not much prone at epistolary performance. Those bright sunshiny days which we pulled at your delightful place, and which received additional sunshine from the cordial hospitalities of yourself & family, will always be marked with white chalk in the calendar of my memory. Such pleasant episodes in the monotonous story of life, I love to dwell upon, and my heart yearns towards those whose kindness chiefly made them so. The museum, the donkey, the walks, the brook, the trees—will always be associated with the savour of a sweet remembrance, while the noble establishment itself, consecrated by so many glorious memories, justifies a little pride of country, and enlarges my reverence of the goodness yet in man. If our yearly conventions had accomplished nothing more than to make us acquainted with one another, and with other institutions beside our own, creating feelings of personal regard and mutual sympathy, I should think they had not been in vain.

RESTRAINTS

A few days after the Association adjourned (Oct. 30, 1844), the new secretary sent an abstract of the meeting to Dr. Amariah Brigham, State Lunatic Asylum,

Utica, N. Y. Dr. Brigham had sent a copy of the *American Journal of Insanity*, now the *American Journal of Psychiatry*, which he had just begun editing that year, to Dr. Kirkbride, and had received from him a note of thanks (July 12, 1844). Dr. Brigham became worried about the statement which the Association had adopted concerning restraints, as the following letter shows, which Dr. Kirkbride addressed to Luther Bell at the McLean Asylum.

November 13, 1844

My dear Sir,

You will probably recollect that just before the close of our convention, the following resolution was written by you, on behalf of the Committee on Restraint &c, and adopted by the Convention, viz., "Resolved that it is the unanimous sense of this convention, that the attempt to abandon entirely the use of all means of personal restraint is not sanctioned by the best interests of the Insane."

Upon looking at this resolution subsequently it appeared to me that the language was liable to criticism and might lead to unjust inferences as to the views of the convention. I copied it however and forwarded it with the proceedings for publication in Dr. Brigham's Journal as directed by the convention. I now find by a letter from Dr. Brigham which I have just received that he is particularly anxious either that this resolution should not be published or its phraseology altered—he is unwilling that we should at this day commit ourselves so decidedly on the subject and objects particularly to the word *attempt* inasmuch as we do always (he says) make the attempt to dispense with restraining apparatus, before we resort to its use; and that those who say they dispense with all restraint would ridicule the idea that we would not attempt to do what they really have accomplished.

As near as I can judge from Dr. Brigham's letters, he would prefer a resolution something like this, "that the entire rejection of every species of restraining apparatus, under all circumstances is not sanctioned by the best interests of the insane."

Of course I have no authority to make any alteration in the proceedings, and unless you as Chairman of that committee are willing to make some change, it would perhaps do better not to publish this resolution at all. I believe we agree entirely on the subject of restraint and I am confident you can word a resolution that would remove all cause for uneasiness.

Have the goodness to let me know your views on this matter at your earliest convenience.

Dr. Kirkbride dispatched a request to Dr. Brigham to hold publication of the statement until he had had a reply from Dr. Bell, who agreed to the wisdom of altering the wording.

During this same year, Dr. Kirkbride was interested in designing and improving his own restraining apparatus, as he reveals in a series of letters to Pliny Earle at the Bloomingdale Asylum.

July 15, 1844

Thy letter of the 24th I received a day or two since, and will have a dress made and sent to thy direction as requested. I shall send it with the necessary straps and buckles which are essential to its efficiency . . .

July 17, 1844

I today send a bundle containing one of our canvass dresses. I regret having been so long in obtaining it, but regular tailors do not like to sew the material and the one I send is not what I prefer. My directions are that they should be secured by small hard *twine* instead of thread, and a small belt to be sewed in at all the points where patients commonly begin to tear. The strap with the back buckles and the small padlock are necessary parts of the dress . . .

July 8th, 1844

It will give me pleasure to order for you the *bed apparatus* (I like that term better than "straps," commonly employed & to which I have a real aversion) but I am satisfied those heretofore made are unnecessarily large and strong, particularly for females and unless you are in a hurry will only order (one) just now as I hope to make some improvements in them, as soon as I can get a little leisure to tend to their construction.

August 9, 1845

I have had two lock buckles, with a key, made for (the bed apparatus) and put on the side straps, which completely prevents a patient from loosening himself, even with his hands unconfined. The cost is 1.25, so that the entire cost is 6.25.

Dr. Kirkbride seems to have filled an order for restraining apparatus which he shipped to Dr. Stribling:

April 22, 1844

With this note I send to Mr. McCanby as requested in your letter of some days since—

one of our bedsteads complete with a wrench for turning the screws by which the bottom is held firmly in its place—one "bed apparatus" which as you will readily observe may be changed in size by means of the straps passing under the broad piece of leather upon which the patient reposes—one "canvas dress" with lock buckle strap for the waist and a (?) strap and small padlock for the neck, both of which are to be covered so as to be entirely concealed from view, and one set "canvas sleeves," which are also to be secured, when in use, by the same kind of belt and neck straps, as the canvass dress just referred to.

He also supplied Stribling with information about the douche :

March 22, 1843

As respects our *douche*, it is simply a leaden pipe (about $\frac{3}{4}$ inch) connected to the main water pipe and either brought into the shower bath box, or else carried over one of the bathing tubs, the supply of water being regulated by a cock attached at such a point as may be convenient. I have such a repugnance to violent means and to seeing an insane man boxed up in any contrivance for restraints, that I have not thus far arranged anything by which I could use the douche as recommended by Lauset if the patient was powerful and obstinately opposed to its employment. There is occasionally a case in which some such contrivance would be desirable, but the number I believe is small.

Thus, Dr. Kirkbride had fairly well formulated his own ideas about restraining apparatus before the Association took up the question and issued a statement.

REPORTS FOR THE JOURNAL

The business of the Association was handled by committees appointed at the first meeting, and most members were diligent in the preparation and presentation of their reports. Brigham, as editor of the Journal, was eager that the Committee reports should be well done. In a letter to Kirkbride he wrote :

May 27, 1848

But I hope Reports for next time will be more complete, so as to form good *monographs* on the subjects they treat. We have been too negligent in this respect . . . To illustrate what I mean—take the subject assigned to Dr.

Benedict. Now his experience & opinion (tho to an extent valuable) are not all we want—but he should find out by all practical means the experience & opinions of others and what cases are proper & what not for dormitories & why ! &c.

In 1849 Brigham had decided on a different system :

I have written to some & shall to all of our associates that they had better select their own subject (provided they do not like the one I designate) for Reports but to be sure to present a written Report on something.

In 1851, the young, scholarly John Galt wrote from the Eastern Lunatic Asylum in Williamsburg, Va.

I regret to find that circumstances prevent me from going to Philadelphia during the present month. The President of our Association assigned me the duty of writing on "The Propriety of keeping the insane and persons affected with other diseases in the same establishment." Not being able to attend the meeting of the Association, I transmit through the mail the required essay.

Pliny Earle, a prolific writer, nevertheless balked at being required to produce his reports :

I have enclosed the Report . . . I heartily wish it "bon voyage," and hope it, or its like will never be found on my table again. For some three months it has been lying here, a *great bore*—like the Thames tunnel, almost, under the London bridge—under the bridge of my nose ; and I rejoice in being well rid of it, when you get hold of another such tough customer please to carve it yourself. My carving knife is dull, and I don't like to lay out my strength upon incorrigibles.

The first mention in the correspondence of the *American Journal of Insanity* is a letter from Kirkbride to Brigham, editor of the Journal.

July 12, 1844

I have to thank you for the 1st No. of the "American Journal of Insanity" which was duly received and to assure you that it will give me pleasure to contribute in any way in my power to promoting its prosperity. The greatest difficulty I see in your plan is the wish to give it at the same time a popular and a

professional character—a difficulty which I feel confident you can come as near removing as any one—and I shall be truly gratified to find you are entirely successful.

Brigham reminded Kirkbride in a letter dated Mar. 3, 1845:

Recollect that all my readers are not Drs. & I must cater for many tastes. I will try to make it better & better—as it is I am assured it has done good & is well rec'd many who have through it had their attention first called to insanity.

Brigham at times found the Journal a financial burden:

I have determined to go on with the Journal though I fear to some pecuniary loss. I wish as opportunity presents you would tell your folks to buy it. I think they will get their money worth—also I must beg something from you for the Journal—do do send me some scraps you must have left over after your Reports—cases or anything else from you will do good—an account of your Hospital would do good & I wish I could have the beautiful print of it to send out bound up with the April number . . . I send a good many to Europe & all our U. S. and I wish to make known so excellent an establishment as yours.

CASES AND TREATMENT

The letters were written in an era when case histories of patients were not maintained and very few descriptions of patients are contained in the correspondence. The only case history in the correspondence is presented by Dr. Awl in a letter to Dr. Kirkbride:

July 1, 1858

Returning from New Orleans, I find my friend and patient ——— has been sent to your care. I had so recommended and am happy to learn they have followed my suggestion. She seemed to grow melancholy in Oct. last, after the loss by death of a much loved child. Depression of spirits and ill health, with occasional slight amendments, have continued for most of the time since until shortly before starting for your city when there were indications of returning health, slight indeed but sufficient to give us encouragement. The change appeared to follow the use of citrate of (illegible) with alum, which brought a

return of the menses, improved the condition of the bowels, and lead to a better state of general health. The suicidal propensity is strong and the suicide may be considered as hereditary, but I have little doubt of your success. The change from home associations to your cheerful institution, with the proper moral treatment and restoratives, will I think accomplish everything desired. A sister of hers was under my care in the Ohio Lunatic Asylum similarly affected, who perfectly recovered, which gives us the more hope.

Her husband desires me to say it may be proper to examine her trunk and with some care, as she is strongly determined upon self-destruction. He also requested me to ask you to write him a line as soon as may be convenient.

Most of the emphasis in treatment, at least in this series of letters, was centered on providing the proper therapeutic environment, attendants and recreation for the patients. Only a few medications are mentioned in the letters.

Several interesting passages describe the facilities available at the time. Dr. Kirkbride expresses his views about the acreage needed for the care of the insane in a letter to Dr. Luther Bell.

June 3rd, 1844

I have today received your letter of the 30th inst, and in replying to the questions contained in it, I have no hesitation in saying, that it is hardly possible to overrate the importance of having a large amount of land connected with every Insane Hospital, not only for gardening and farming purposes, but to enable a numerous class of patients to have the full benefit of exercise in the open air, (to protect them) from the excitement attending their coming in contact with persons who are to be found rambling in the vicinity of every large city. Gardening and farming are available for nearly all classes, and in my opinion ample opportunities for this kind of employment should be provided by every institution no matter what class of patients may generally be received. The lowest estimate I have been in the habit of giving is half an acre for every patient in a hospital, and I am confident what with less than fifty acres, an institution like the McLean Asylum must labour under some disadvantages. Connected with this hospital we have one hundred and eleven acres, of which fifty-one are surrounded by a stone wall 10½ feet high around the pleasure grounds of the patients,

the remaining seventy are used for farming purposes and we should be sorry to part with a single acre of either.

Awl mentions the deer park at the Pennsylvania Hospital.

I have inquired of the gentleman owning the park of deer and he informs me that his whole stock degenerated in the same way yours is doing. He thinks it owing to the confinement to narrow bounds and the tame pasture. Says the sheep and goats do no injury. He was obliged to give up the whole park and now has not a single one left of a very large flock.

Stribling had a somewhat idealized recollection of the Pennsylvania Hospital, as he wrote to Dr. Kirkbride:

August 6, 1867

I often think of you and in imagination see you engrossed as ever in your specialty, and everything around you looking bright and prosperous—your buildings, commanding as to the exterior, inviting within—your grounds ample and beautifully arranged, your attendants competent and faithful—your board of managers confiding and liberal.

The cost of treatment in the Pennsylvania Hospital is mentioned in a letter from Awl to Kirkbride, when he referred a patient on Dec. 4, 1849.

It is an institution exclusively for paying patients with fine accommodations varying in price from four dollars as high as friends choose to pay.

Brigham described the milieu of the Utica Asylum.

March 3, 1845

We have done and are doing much with our schools and have had a very pleasant winter with frequent exhibitions at which we have been singing, acting pieces, declamation &c. I have had hymns printed on cards to hold in the hand and thus have got more than half our household to sing after a fashion & to their satisfaction & enjoyment.

Earle was pleased with a new facility at Bloomingdale Asylum.

Dec. 9, 1848

During the past month we have been building a new Bowling Alley in the men's yard.

The edifice is 70 ft long and 14 wide, enclosed, wainscoted & windowed. It gives ample room for an Alley and a shuffleboard . . . I am happy to hear you are building a museum. Your institution will be a *bifors* for the Insane before long, not to say that it is not now.

Later, Earle was proud of his establishment at the Northampton Lunatic Hospital in Northampton, Mass.

Oct. 16, 1865

Our official year closed on the 30th Sept. and had been a successful one—for the latitude and longitude; far more successful than I feared at its beginning. We more than paid our expenses, and received more from pay-patients—or rather, *earned* more by them than in any earlier year of the hospital. We have made many improvements in details; which contribute largely to the good and quiet working of the hospital, and are now in a condition in which, if not comparable with you, we are, at least, not to be "sneezed at." So don't sneeze at us. And if Northampton has ever been a "bye-word" among you "crazy doctors," let it be so no longer.

The founders, then, were proud of their institutions and their care of the insane, as shown in a remark by Awl.

Dec. 4th, 1849

Travelling . . . may do good, but is neither as cheap or reliable as treatment in a well conducted asylum.

Epileptics were often included in the insane hospitals, and the most complete medical regimen described in the letters is provided by Dr. Woodward who answered a question about treatment of epilepsy which Dr. Kirkbride addressed to him soon after the initial meeting of the Association.

Nov. 21, 1844

I am glad that you have written to me on the subject of Epilepsy. As it seems I was misunderstood if the impression was received that I have cured three hundred cases. That is too large a number I have no doubt, although I am unable to say how many. I believe I said that I thought I cured one-third of the cases that I treated if not complicated with insanity, palsy, or other organic disease. I generally use the Nitrate of Silver in pills in combination with narcotic . . . You may recollect when in

Philadelphia the question was asked me what I thought of Iodine as a preventive of the *blue skin*. I replied that I had no confidence in it as I had used silver freely in probably one to two thousand cases & had never seen but two cases of blue skin. I did not mean to be understood so many cases of Epilepsy as I use the remedy freely combined with morphine in diseases of the heart, uterus, and intestines . . . I prescribe these remedies with some hope even when Epilepsy is complicated with Insanity.

ATTENDANTS

Dr. Kirkbride was always interested in the calibre of attendants chosen to care for the insane, as shown by the fact that he was made chairman of that committee at the original Association meeting. Apparently some of the attendants at the Pennsylvania Hospital were procured by Pliny Earle who wrote on July 24, 1846 :

Thine of the 20th is at hand. I sent the two applications to thee, not knowing whether thee wanted any more attendants at present and supposing that if thee did want more, thee would communicate with the applicants. Below is a copy of my advertisement in the Worcester.

YOUNG MEN

Wanted, as attendants on the Insane, at the Bloomingdale Asylum, New York, and the Pennsylvania Hospital for the Insane, Philadelphia.

SIX YOUNG MEN

active, intelligent, not addicted to the use of tobacco or alcoholic drinks, and possessing that essential element of the power of exercising good government over others—*the power of governing themselves*.

Such as have taught schools, and can bring good testimonials of their success in that business will have preference.

Applications, for both institutions, to be made by letter, and addressed to Pliny Earle, Physician to the Bloomingdale Asylum, New York.

I like the plan hinted at in thy letter requiring from applicants the loan of their shadows by which to judge of them.

"Poor Tom, who had a house to sell
Did round the country go ;
And that he might its virtues tell
He took a brick to show."

Isaac Ray, who later wrote a small handbook describing the proper character of attendants and other personnel at hospitals, also expressed his views in two letters :

19 May '58

The Crocker you speak of was an attendant here some 8 years ago, then fresh from the country, young & unsophisticated. He was intelligent, prompt & gentlemanly, but rather quick-tempered. He never handled a patient roughly, but occasionally spoke sharply, and, if I am not mistaken he was not always on good terms with other attendants. Still, he staid here as long as he cared to, & since then he has been in California, Minnesota, & the Lord knows where else—a sort of experience not calculated to improve him as an attendant. The fault I should most apprehend in him now, is, that he would be likely to know too much for an attendant, & not enough for a supervisor.

11 Aug '62

I have just addressed a letter to the Secretary of War in which, for reasons too obvious to you to need mentioning, I suggested to him the propriety of exempting from the recently ordered draft, attendants in hospitals for the insane. There seems to be in this matter of exemption, some division if not conflict of authority, between the state and the U. S. Without understanding it or inquiring into it, I concluded that it might do good & could do no harm, to address Mr. Stanton, and my object in writing you now is to suggest that you also address him to the same effect. A letter from you would have more influence with him, no doubt, than one from me of anyone else.

The wages of attendants were, incidentally, mentioned by Kirkbride in a letter to Bell.

Sept 14, 1844

. . . At present we are paying \$10 for male attendants and \$8 per month for female attendants—a sum that I consider too small to remunerate the proper kind of persons for the responsible duties they are called upon to perform . . .

KIRKBRIDE ON CONSTRUCTION

Because his interest in the field of psychiatry was construction of hospitals for the insane, much of the correspondence deals with design and building of a mental hospital.

tal, and Dr. Kirkbride set forth in these letters many of his ideas in the greatest detail. He desired that a hospital should have not only a pleasing exterior, but also the benefit of the latest developments in engineering. In this correspondence he showed particular interest in a system of forced ventilation, either by steam or hot air, in order to provide fresh heated air and to remove foul air.

Most of the founders addressed questions to Kirkbride about all aspects of hospital construction including: hot water heating, steam heat apparatus, a laundry drying system, pressing machines, manufacture of laundry soap, ornamental wrought iron window screens, doors and panelling, dormitories, verandahs, chapels. Ayl dis- cussed his plan for a new state hospital in Ohio, while Stribling consulted him in 1859 about a new hospital west of the Alleghenies. Kirkbride complied with all their requests and supplied advice on all aspects of construction and organization in the minutest detail. He even purchased and shipped materials for them, including bed spreads, magic lanterns, tivolì boards.

In 1853, the erudite Galt wrote to ask his opinion:

Sept 5th, 1853

Being engaged in writing an article relative to the propriety of treating the insane of each sex in the same or separate institutions, I have determined to seek the aid of your clear judgment, ability & great experience in the management of the insane.

Isaac Ray reported to Kirkbride his feelings about verandahs.

Jan'y /47

Accept my thanks for yr pamphlet on Construction of Insane Hospitals. I wish that every one who has had equal opportunities to form opinions on this subject which I regard as second in importance to no other connected with the care of the insane, would *publish* them & be willing to assume the responsibility of them. This is the only way in which any advance can be made, & this result is no less certain, though it may show considerable diversity of views. I see nothing of much importance in yr views from which I should dissent, except yr approbation of verandahs, as Dr. Woodward styles them. Of all contri-

vances connected with hospitals, none has appeared to me so utterly objectionable as these—cages, I call them. You may think I am unreasonably prejudiced, but I have some foundation for my views, I have been disgusted & sickened by the sight of the patients at Worcester, from the road, climbing up the bars, & making indecent gestures to the passers by.

Kirkbride, in his beautifully designed hospital where patients had single rooms, gave his opinion about dormitories or wards in a letter to Brigham:

... On the subject of associated dormitories it appears very evident to me that our friends in Great Britain are passing from one extreme to another, from having all single rooms to having nearly all collected in large dormitories. Since reading Dr. B's [Bell's] article, I have been looking very carefully over my own patients and think that one-third might thus be accommodated *without any disadvantage*, and about *one-eighth or one-tenth*, with some advantage. These last are a certain class of suicidal patients and some timid individuals, generally females, who have a dread of being alone at night. Our patients tend to be generally of a class who express the same feelings in regard to have a chamber of their own in the hospital, as they would if living at a hotel or ordinary boarding house.

Associated dormitories are not novelties in this section of the country. During my residence in the Penna Hospital in the city of Philada many years since, I had opportunity of observing them pretty extensively. For 20 years it was the custom to have at least one-fourth of the whole number they lodged, and the practice was continued until the patients were removed to this institution. The number in a room varied from 4 to 12 or 14. The experience there went so far as I can learn, to prove conclusively that for many patients there was no *danger* but at the same time so little advantage, that in constructing the new hospital all patients (except those with a special attendant) were provided with single chambers. The patients in the old hospital—the men at least, who lodged in associated dormitories had the "largest liberty" for insane men that I recollect to have heard of. They had no attendant with them, and for many years the doors leading from their apartment into the open air were never fastened. Those who became tired of being in bed during hot nights could get up, take a promenade in one

of the yards and return to enjoy a tranquil nap. One individual when unable to sleep, was often known to go down to the woodpile, and during a moonlight night saw more than a quarter of a cord of wood before retiring to bed (not a bad anodyne after all). And one gentleman of small stature but wonderfully powerful voice who still makes himself heard in this neighborhood when he had a vision of some fancied insult, would hastily dress, hurry down to the yard and after a few minutes of loud talk & violent gesticulations, quickly return to his bed without disturbing the slumber of his sound sleeping neighbors. The regular watchman of the institution was the only guardian of these patients for several years, and with all this . . . want of proper care, I do not recollect having heard of any unpleasant occurrence.

JURISPRUDENCE OF INSANITY

All of the superintendents had to contend with the ill-defined status of commitments, the legal rights of the insane, and the problems of insane prisoners. Earle was able to joke with Kirkbride about the situation in July 1865:

My dear "Mr. Chinklinde" alias "Dr. Kilpatrick"

Are you yourself or are you not? A friend sent me yesterday the April No of the "New York Social Science Review," which contains a discussion in a society evidently composed almost exclusively of foreigners, of the subject of Insanity. It is about the shallowest thing I ever did see.

One speaker says, "In Philada, where a large asylum of such a nature (private) is kept by a certain Dr. Kilpatrick, everything depends upon the Doctor's honesty. He may bury an innocent person alive if he chooses." Hem!

Many of the superintendents were called upon for their opinions in legislation for the insane, as Awl mentions:

June 19, 1846

I have also to review the laws of the state in relation to the subject of insanity. I got into this last scrape by recommending the subject to the consideration of the Legislature, which honorable body very good naturedly took it into their heads to think one good turn deserving of another and immediately conferred the duty on myself. It must therefore be done, though I have neither skill nor desire for drafting laws.

Oct 25, 1849

I hardly know how I am to get through & prepare for the Legislature, who I am sorry to say it is to be feared, will be about as pretty a set of Blackguards as Ohio produced last winter.

Kirkbride was aware of Awl's experience and recommended him to the governor of New Jersey:

Jan'y 18th, 1847

I have just had a visit from Governor Stratton of New Jersey and he is very anxious to avail himself of your labors in the revision of the Statutes of Ohio relative to Insanity &c.—and he desired me to write to you and to request as a special favor to him and to myself, that you would forward a copy of your devised law on the subject of the Hospital &c. provided the same is in print, as soon as you can after receipt of this . . . I had already told him your knowledge and experience and on the subject of State Hospitals would be peculiarly valuable to them, and on that account they would like not to act till they know what your legislature has done.

Isaac Ray, who published his *Jurisprudence of Insanity* in 1838, was recognized as the leader on the subject, but did not discuss legal matters at any length in his correspondence with Kirkbride.

THEORY

It is interesting to note that any speculation or theory in regard to mental functioning is absent from these letters and is mentioned only in an oblique way by Pliny Earle:

Aug 4, 1858

You know that Dr. Carpenter says that when we try to think of a thing and can't, the brain takes up the matter into *automatic* keeping, rummages and ransacks all its rusty, musty, and cob-webbed corners, and after thus working, unconsciously to ourselves, if it happens to find the said thing, it at once pops it out upon our recollection, while we are thinking, perhaps, of something as foreign as possible to it.

PUBLIC CASE OF IDIOTS

A letter from William M. Awl to Kirkbride makes a definite statement concerning the origin of public care for the mentally retarded:

Nov. 10th, 1857

My dear Friend Kirkbride

Breaking a long Silence, I invite your kind attention to the following facts & circumstances of which, I think, you cannot fail to have clear recollection, and which will be, I trust, of sufficient interest to receive from your hand a suitable corroboration and statement in reply at your earliest convenience.

We have an institution for Idiots in Ohio of which Dr. Patterson late of the Indiana Hospital for the insane is the Superintendent. He and his board of Trustees are about preparing their Annual Report, and the Doctor this evening came into my office with the request that I would furnish him with any facts that I might have in relation to the origin or first movement of a public nature that I had known to occur on the subject in the U. S. This he doubtless was induced to do in as much as I had previously mentioned that this action originated in the Association of Med. Superintendents, and that I myself was confident of it because I had there brought it forward.

Other parties it seems have been claiming the honor (if this discharging an impulse of duty may be so called) and on this account he thought it best to have the facts clearly stated to vindicate of course the truth of history. I accordingly drew up for him the following. "That the first public action on this interesting scheme of benevolence in the United States (in my opinion) was in the City of Philadelphia, Pa. during the month October 1844, and before the first meeting of the Association of Medical Superintendents of American Institutions for the Insane, of which Dr. Woodward of Mass. was the President and Dr. Kirkbride of Pa. the Secretary. That the importance and need of Asylums for the care in instruction of idiots in our country was at that meeting brought to the immediate notice of the Association by myself in a few introductory remarks. That I was followed by other members who also spoke upon the matter; and that a committee consisting of Drs. Brigham, Awl, & White was appointed, who at a subsequent session, held in the City of Washington in May 1846, made an able report thereon, to the same body. Doctor Brigham having been by my special request appointed chairman of the committee instead of myself."

These facts in this detail it is true do not appear in the proceedings of the Association as published in the Journal of Insanity. But the fact that there was such committee does, also that they made such a report through their

chairman the late Dr. Brigham. And of the whole of which proceedings, as stated, I now have as clear a recollection as if it all occurred but last week. I could not help knowing it vividly & perfectly, for I made a note of the subject as a proper one to claim our united attention before leaving home. I can yet recall almost the language I there used and I distinctly recollect another circumstance connected with the occasion . . . *The first public movement on the subject of institutions for the idiots in our country took place in neither Boston nor N. Y. but in your own good city of Phila. and before the first meeting of our association as I herein have stated it . . .*

INTRODUCTIONS : DOROTHEA DIX

Several of the founders sent letters of introduction to Dr. Kirkbride, introducing legislators, doctors, and others interested in insanity, asking Dr. Kirkbride to talk with them and show them his hospital. All three letters from Stedman in this collection are letters of introduction. Stribling introduced a doctor from California in 1853. Bell introduced Dorothea Dix, who was just beginning her campaigns on behalf of the insane. The association between Miss Dix and Dr. Kirkbride continued for many years on a basis of mutual admiration. However, in 1845 Kirkbride wrote to Bell :

During my stay in Boston our friend Mr. Dwight mentioned to me that it was publicly stated in the streets, that Miss Dix, had procured the pardon of twenty-seven insane convicts from the Eastern Penitentiary during the past year. I had no hesitation in saying that the statement was incorrect. Since my return I have made particular enquiries on the subject. I find on investigation that Miss Dix did solicit the pardon of *one* man from Montgomery County who was notoriously insane at the time of his conviction, and that one other insane man at the time of his conviction was pardoned by Govn. Porter during the past year. These are the only two cases of insane convicts pardoned during the past year. I am also authorized to say that it has never been the custom to pardon a convict on account of sickness or insanity, and that such occurrences have been exceedingly rare at any time.

I mention these facts that should you hear, as you probably will, the same statement, you may be able to state what are really the circumstances of the case.

Others of the founders knew Miss Dix and her work. Brigham wrote :

Mar 3, 1845

I see Miss Dix has been over your state & *memorialized* your legislature. I hope good will result from it & trust that her experience in this state may make her more courteous in observing & publishing. In this state I am afraid she did hurt by *coloring* & by not accurately observing. She was often mistaken & this has thrown a doubt over all her statements with many.

Stribling, in Virginia, had praise for her plans to use government land for hospitals, but thought that a States Rights attitude might prevent southerners from using her idea :

Sept 23, 1850

I was pleased to see that the Assn so cordially endorsed Miss Dix's national scheme. I sincerely trust that her praiseworthy perseverance may be fully rewarded.

Aug 21, 1852

We have just had a visit from Miss Dix which we prized much—only regretted she could stay with us so short a time. Her 10,000,000 bill you see has passed the Ho. of Representatives—it will I trust certainly pass the Senate. It is, however exceedingly doubtful whether it will at all benefit the Institutions in Va. as our state rights politicians oppose such disposition of the public lands—our legislature may & probably will reject the donation.

One of the secretary's duties was to write introductions for representatives of the Association to attend meetings in England. Doctor Kirkbride's file contains the following "Letter of Authorization for Bell to represent the Association at meeting in Great Britain."

At the meeting of "the Association of Medical Superintendents of American Institutions for the Insane," held in Philadelphia on the 16th day of October 1844, it was *resolved*

"That any member or members of this association who may be in Europe at the time for the meeting of the Convention of Physicians to the Institutions for the Insane in Great Britain, be authorized to represent this body at that meeting, and

that the President and Secretary furnish the proper credentials."

In pursuance of the authority granted by the above recited resolution, and by request of Saml. B. Woodward M.D., President of the Association, I hereby certify that Luther V. Bell, Superintendent and physician to the McLean Asylum for the Insane near Boston, Massachusetts, is hereby appointed a delegate from the said Association of Medical Superintendents of American Institutions for the Insane, to attend the next meeting of the convention of the Physicians to the Institutions for the Insane in Great Britain.

Kirkbride took advantage of Bell's trip to Europe to request information for himself :

December 11th, 1844

... I was certainly surprised to learn that you were to be our representative to the British Association, but can assure you that no one would have been more likely to have been selected, had the Association had the privilege of selecting from the whole body. I hope the trip will prove pleasant to you, and of benefit to your own health, as it can not fail to be advantageous to the institution, for which you undertake the voyage. You are so completely familiar with all the matters that interest us in common, that I know not how any suggestions of my own can enable you to add to the usefulness of your undertaking. I would just remind you however that you are the Chairman of the Committee on Restraints and Restraining Apparatus and that I am particularly anxious to know the true state of the "non-restraining" hospitals and the precise means they employ in certain cases that will suggest themselves to you. I should also like to know the precise character of their "padded rooms" and whether they can be kept perfectly sweet and the fixtures entire when patients are not only very violent but very filthy in their habits. You will get all the novelties in the mode of construction, ventilation, &c. You must keep a register of all you see and hear . . . that is worth remembering, for the benefit of the rest of us who have to remain at home.

Any new plans of hospitals—engravings of them or designs for the hospitals for the Insane, I wish you would do me the favor to secure for the library of this institution.

I should be glad if you would visit the new penitentiary near London, on the separate system and write me your impressions of the establishment and how it is working . . .

DIFFICULTIES : FIRE AND PLAGUE

Management of a hospital in the 19th century presented other difficulties to the founders than just patient care, as recorded by Awl :

Jany 23, 1847

I am just recovering from a horrible alarm of fire in our building—another example of the practicability of setting wood on fire by means of heated air. Nobody injured—very little damage done, but every one, including your humble servant, awfully frightened.

Mar 20, 1849

... Provided always the cholera is not about in some of the big cities. And by the by what do you think about this awful disease? How dreadful to have it break out in an institution! May God in his merciful Providence spare the Hospitals for the insane one & all. And may he prepare you & I and our Fellow Associates in the care of the insane, with strength of mind and body for whatever trials may await us.

July 7, 1849

With the cholera prevailing nearby in the city and state prison, and with the alarm that is causing attendant after attendant to leave his post, you cannot imagine how timely and welcome has been your very kind letter . . .

Aug 2, 1849

As yet we enjoy health in the Asylum and cannot be too grateful while the pestilence has been raging, as it were, around us. At this time there is a sizable decline in the city nearby & in most directions, especially West & South. The epidemic apparently passing over the Continent from the Southwest to the Northeast. In the Ohio Penitentiary within sight of our building it has been unusually severe & fatal & at Lexington in the Asylum very bad. How good & merciful our Heavenly Father in allowing us frail & sinful worms to escape whilst thousands of good & better are called to drink the bitter cup. And how should we pray that a Knowledge of this goodness may lead us to repentance whilst we exercise faith in the Lord Jesus Christ.

THE CIVIL WAR

In spite of the fact that the correspondence continued through the years of the Civil War, there are only two references to the war in these letters.

In May 9, 1861, Isaac Ray wrote to Dr. Kirkbride :

The truth is there is only one idea afloat in the public mind, and nothing else is cared for. Two of our Trustees have gone to the wars, and others are drilling. I don't intend going myself, but my son would go if he could persuade me that he could be more useful to his country there than here.

In Feb. 13, 1865, Pliny Earle wrote :

It seems that "Uncle Abe" can't settle his difficulties Quaker fashion. Well! Out of the whirlwind cometh the calm, and time will show which party shall reap most of the whirlwind.

PERSONAL NOTES

Among the solicitations and remarks about one another's general health, there are two interesting matters. First, Awl seems to have passed through a period of depressive ruminations about his condition :

May 27, 1847

The truth is I have been low-spirited, in feeble health and hardly able to get through with duty for some weeks . . . I once thought that if I ever should go crazy (and some folks I suppose think I should not have far to go) it would be my desire to go to Worcester. But I believe now I should as soon they sent me to Philadelphia as any place else in the world.—Provided always you remain superintendent—otherwise I do not go crazy at all . . . Such constant application of the mind as we are obliged to give our respective institutions is enough to wear the brains and body both out.

Aug 30, 1847

I am sensible of an uncommon weakness and a state of nervousness which at times makes me uneasy with a dread that something worse may be coming—what I don't know, unless it be palsy or something worse.

The second interesting item concerning the founders' health refers to the shooting (1) of Dr. Kirkbride by an apparently paranoid patient. Dr. Awl writes to Dr. Kirkbride :

Oct 25, 1849

I am in receipt of your very acceptable favor of the 19th inst and hasten to offer my congratulations for your truly Providential escape. The newspapers had furnished an account of the shooting but that only served to render us anxious and uneasy for your safety, thinking you had perhaps sustained

greater injury than was known to the public. But now the truth is known we are greatly relieved and thankful. The scoundrel deserving punishment of some kind—certainly to be restrained of his liberty and propensity to do evil. He belongs to a troublesome and mischievous class who are part mad, part knave, and rather more than two-thirds down right old-fashionedly wicked in heart and head. We too have had such and it is some doubtful if an Insane Hospital is exactly the right place for them. I hope the laws of your commonwealth will at least see that he gives you no further trouble.

Stribling wrote from Virginia concerning the incident :

Sept 23, 1850

Have you recovered entirely from the effects of your shot? Your escape must have been Providential! You & myself have I believe come nearer falling martyrs in the cause than any of our contemporaries—unless indeed poor Brigham may have fallen a victim to his zealous self-denying labors.

Thus, the correspondence covered the range of problems which confronted a 19th century American psychiatrist. In discussing all of these matters, the personal regard of one founder for another is always evident. For example, Awl says of Woodward :

June 6, 1848

Our friend Dr. Woodward I found in the enjoyment of his fame and every domestic comfort this life can afford. He attends to the practice of his profession rationally in a state of literacy, so as to make it both profitable and pleasant, a little more perhaps of the former than of the latter. I say pleasant because he does not ride nights nor much in bad weather, and much of his time is devoted to consultations. My time with him was spent very pleasantly & profitably and I still regard him as a great & good man. He appears to live a life of industry in order to be useful & having exhibited the evidence of righteousness by faith in a gloriously exalted Redeemer, his evening will doubtless descend without intervention of a cloud. Honorable & useful, it will be hard to find a more delightful man than our mutual friend Samuel B. Woodward.

In two letters, Earle compares Kirkbride to Confucius in his wisdom, who he felt would have made a good superintendent of

a mental hospital. Earle did not have such a high opinion of some other physicians and wittily wrote to Dr. Kirkbride on Nov. 9, 1857 :

If your corps of professors is not so large as that of other colleges, there is still a compensatory advantage for you in the fact that you will not make so many M.D.'s (Muddle-headed Dolts) as they do; and I trust that your graduates will not make such pretensions to universal knowledge as some of us M.D.'s do.

The founders occasionally gossiped about one another. Earle wrote to Kirkbride :

Feb 13th, 1865

As President of the Assn of Superintendents, thee asks me if I am married. As a correspondent of *The Am. Jour. of the Med. Sciences*, I answer: No. If the question had been put, and answered, in the personal *capacity* of each of us, the answer would have been the same.

Ray wrote about the Quaker Earle :

20 June 51

I can tell you nothing new in our line, unless it may be that poor Earle has been unsuccessful in his wooing; or rather, though he apparently succeeded, yet his success did not continue. There is talk about a mustachioed fellow in regimentals having eclipsed the Dr. in the eyes of his ladye love, but that of course must be scandal. I fear however she is not a docile follower of Wm Penn.

In the entire correspondence, there is only one example of heated tempers, when Brigham apparently felt that Kirkbride had not supplied him with material for the journal concerning the erection of the New Jersey hospital. Kirkbride replied (Jan'y 10th, 1846), "I may candidly say that there was something about your previous letter I did not exactly like." In his next letter on Jan'y 29, 1847, Kirkbride was sarcastic throughout and finished by saying,

As to the "cutting up," I have been too much of a surgeon in my day to object to cutting up or down if the case is properly selected and the operation done in good style. I know that even if it is disagreeable it may be useful and if I am to be cut up I would as leave have you do it as anybody else.

Two of the founders were apparently interested in poetry. Earle included a short verse in one letter, while Awl wrote to Dr. Kirkbride on Dec 5, 1857 :

As Cutter said, "I am out of the crazy business." An Editor now & then comes at me for something nevertheless, and when in the mood I occasionally for amusement comply—sometimes in prose and then again in verse as the fit may take me, keeping it very quiet to enjoy alone. Here is a small sample, which, as it is on a more stirring subject, you may hand to one of your city Editors to copy if you like, concealing of course my name. Some out here think it a hit—at the right point and at the right time, these very important essentials in popular composition. But of this you will judge. Let me hear from you & if the verses are printed send me a copy of the paper.

CONCLUSION

One hundred and ten letters from the founders of the American Psychiatric Association to its first secretary, and forty letters from Dr. Thomas S. Kirkbride to the founders, have been reviewed. The letters, dated from 1843 to 1865, cover the founding and early years of the Association and reveal the character of the "Original Thirteen" as well as their concerns and struggles. Probably the only founder who would have supposed that this correspondence would be preserved was Pliny Earle, who with his usual wit, wrote to Dr. Kirkbride :

August 9, 1862

N.B. Please preserve all my letters as models of philosophic, didactic, and aesthetic writing.

APPENDIX

FOUNDERS

Awl, William M. (1799-1876), Ohio State

Hospital, Columbus, Ohio ; 23 letters.

Bell, Luther, V. (1806-1862), McLean Hospital, Mass. ; 8 letters.

Brigham, Amariah (1798-1849), Hartford Retreat ; Utica State Hospital ; 8 letters. First editor of the *American Journal of Insanity*.

Butler, Joh. S. (1803-1890), Boston State Hospital ; Hartford Retreat ; 6 letters.

Cutter, Nehemiah (1787-1859), Pepperell Private Asylum, Mass. ; 1 letter.

Earle, Pliny (1809-1892), Bloomingdale Hospital ; Northampton Lunatic Hospital, Northampton, Mass. ; 24 letters.

Galt, John M. (1819-1862), Eastern State Hospital, Williamsburg, Va. ; 3 letters.

Kirkbride, Thomas S. (1809-1883), Pennsylvania Hospital for the Insane, Philadelphia, Pa. ; 40 letters. First secretary of the A.P.A.

Ray, Isaac (1807-1881), Maine State Hospital, Augusta, Me. ; Butler Hospital, Providence, R. I. ; Philadelphia ; 22 letters.

Stedman, Charles H. (1805-1860), Boston Lunatic Asylum ; 3 letters.

Stribling, Francis T. (1810-1874), Western State Hospital, Va. ; 8 letters.

White, Samuel (1777-1845), Hudson Lunatic Asylum, Hudson, N. Y. ; no letters. First vice-president of the A.P.A.

Woodward, Samuel B. (1789-1850), Worcester State Hospital, Mass. ; 4 letters. First president of the A.P.A.

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ADOLF MEYER ON AMERICAN PSYCHIATRY IN 1895

GERALD N. GROB, Ph.D.¹

"You are on the dividing year of your first century of life," S. Weir Mitchell told a convention of superintendents of American hospitals for the insane in a famous address in 1894.

You look back with just pride as alienists on the merciful changes made for the better in the management of the chronic insane. It is to be feared that you also have cause to recall the fact that as compared with the splendid advance in surgery, in the medicine of the eye and the steady approach to precision all along our ardent line, the alienist has won in proportion little. This is partly due to the nature of the maladies with which you have to deal; but there are many other causes at work to retard the wholesome progress. Just that which is impairing the usefulness of the lesser specialties in medicine has been more gravely enfeebling your value, and retarding your development. I mean the tendency of isolation from the mass of the active profession.

Accusing his listeners of complacency, he lectured them harshly about their many shortcomings—a lack of interest in research, haphazard management of their institutions, the disinclination to train and utilize qualified medical personnel, and a lackadaisical attitude in general. Mitchell confessed that some of the problems facing the superintendents arose from factors beyond their control, but stressed that as a group they had to bear a large measure of responsibility for the existing state of affairs(1).

Mitchell's speech aroused much antagonism(2). It did so precisely because it told the truth. Mental hospitals in America had deteriorated considerably during the last third of the 19th century. Compared to other advancements in the medical field, treatment of the mentally ill had made little progress. Psychiatrists had become increasingly narrow and specialized and were growing more isolated from both the medi-

cal profession and the recent work in psychology that touched upon their specialty.

The stagnant situation of the 1880's and 1890's stood in sharp contrast to the progress made in the period preceding the Civil War. During the early 19th century, as a result of the liberalizing influence of Enlightenment thought and the general current of humanitarian reform, a significant beginning had been made in establishing a comprehensive hospital system based on rational therapeutic principles and open to all regardless of social or economic class. The dominant therapy of that time—moral treatment—reflected the hopeful and optimistic approach of those physicians and laymen who were concerned with the insane. Taking their cue from the pioneering work of Pinel and his contemporaries, American psychiatrists developed a therapy that emphasized kind, individualized care within a small hospital, occupational therapy, religious exercises, amusements, and games. The use of devices for mechanical restraint were partially repudiated as part of the treatment. Instead heavy emphasis was placed upon a healthy psychological environment for both the individual and group. So much enthusiasm and vitality went into these efforts to better the care of the insane and to develop a successful therapy that significant results were achieved(3).

Developments in American psychiatry after the middle of the 19th century, however, failed to meet the expectations of these early reformers. There were a number of causes for this failure. In the first place, the patient population resident in the many public institutions founded for the care of the insane continued to rise with each passing year. The natural increase in population, swollen by large numbers of immigrants, resulted in a proportionate rise in the insane. As a result, the efficacy of moral therapy, which was based in part upon individualized care, was sharply impaired. Many state hospitals, therefore, were transformed slowly from curative into custodial institutions.

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Secondly, as hospitals became places of confinement, they tended to become isolated from outside influences. Although a spirit of research and experimentation was a major characteristic of 19th century science, few American mental hospitals by the 1880's had anything that resembled even remotely a well-organized and integrated research program(4). Partially because of the problems arising from the ever-growing inmate population, many hospital superintendents fostered a narrow specialization that made them administrators who were untouched by many of the dominant intellectual and scientific currents of their own day.

Finally, the pessimistic direction that psychiatric thought took reversed the earlier optimistic attitudes. In the preceding half-century an important beginning had been made in accumulating knowledge concerning mental illness and developing an effective therapy. Pinel, for example, influenced by the French ideologist school (which argued that in science theory had to be based on the gathering and analysis of sufficient data), broke with the speculative philosophies previously characteristic of psychiatric thinking and insisted that all knowledge about insanity would have to come from extended observation of the external characteristics of insanity(5). Far more important than the nosological system that he formulated from extensive observations, however, was his introduction of a psychologically-oriented therapy predicated on the assumption that insanity was a curable disease. As a result of the work of Pinel and his followers, a spirit of hope and enthusiasm entered institutional psychiatry, which underwent a drastic transformation.

During the second half of the 19th century, however, the materialism that accompanied the development of science had a decisive impact on psychiatry. Medicine in general entered a period marked by an emphasis on a structural pathology. In psychiatry in particular the search for a physical or somatic basis for insanity resulted in a lessened interest in psychological phenomena. Psychiatrists tended more and more to disregard the psychogenic aspects of mental illness and to emphasize its somatic etiology. The theory of degen-

eration, for example, which coincided with the idea of evolution, was symbolic of the disillusionment with the older moral therapy. Similarly, the prevailing somaticism, reflected in the work of Wilhelm Griesinger as well as in the rise of neurology as an integral part of medical science, contributed materially to the loss in confidence in the ability to deal effectively with mental illness with a therapy that was psychological in nature. After all, if the basis of insanity was physical, of what use would be a psychological therapy? Thus the emphasis on a somatic etiology led to a form of therapeutic nihilism, for until it was possible to correlate lesions with abnormal behavior, no therapy—physical or otherwise—would be possible. One result of materialism between 1850 and 1890, therefore, was a lessened confidence in the ability of the physician to influence the course of mental illness.

American psychiatrists in particular were affected by the prevailing somaticism. Because their contacts with mental illness had usually occurred within the confines of an institution where patients whose prognosis was anything but hopeful (partially a result of the retrogressing impact of the internal environment of the hospital) had tended to accumulate, they were highly receptive to a physical interpretation of insanity. More and more a spirit of pessimism characterized institutional psychiatry in the United States. As Dr. John B. Chapin, superintendent of the Willard Asylum in New York and one of the leaders of American psychiatry, put it in 1877: "The majority of the insane are not likely to, and, as a matter of fact, do not recover. . . . In the judgment of the medical profession, further advance in our knowledge of the pathology of structural changes is best assured in the revelations which the microscope will furnish(6)." Especially representative of the loss of confidence was the work of Pliny Earle, whose book *The Curability of Insanity: A Series of Studies* (1887) was a bitter attack on the optimistic claims of his predecessors.

By the end of the 19th century, however, the impact of new forces—intellectual, social, economic—was being felt. In the intellectual sphere, for example, one of the

products of Darwinian thinking was the rise of an environmentalist ideology that sought to reform American society in order to eliminate or at least mitigate some of its glaring defects. The older deterministic outlook, exemplified in the philosophy of Herbert Spencer and William Graham Sumner, came increasingly under direct attack by various individuals who constituted the nucleus of the progressive movement of the late 19th and early 20th century. Basically the progressive outlook was characterized by an optimistic moralism and a belief that the individual could be changed by altering his social environment. Operating at many different levels in society and in many different fields, progressive reformers began to apply their ideas to develop programs of social control and reform(7).

Psychiatry too was affected by the intellectual and social ferment of this period. Increasingly the older pessimistic somaticism came under criticism as psychiatrists, influenced by environmentalist ideas, thus sought to modify their own discipline. Dissatisfied with merely performing post-mortem examinations of demented brains or expounding rules for the confinement of insane persons whose prognosis was largely negative, psychiatrists slowly but surely began to re-examine some of their traditional assumptions about man and the nature of mental disease. Initially a body of critical thought was enunciated by physicians who were not associated with state mental hospitals, as well as humanitarian reformers and social workers eager to introduce much needed changes into mental hospitals. The strength of the ideal of scientific research at the end of the 19th century, moreover, was such that there was a concerted effort in the United States to loosen psychiatry from its administrative foundations and bring it back into medicine. Newer developments in psychiatric theory were also in the process of shaking many time-honored ideas. The relative failure of the physical approach reopened interest in the psychological. In France, for example, a considerable body of work had been done on the neuroses. In Vienna Freud was embarking on a career that would virtually revolutionize older ways of thinking about

human behavior. Even Kraepelin's monumental work, despite certain pessimistic overtones, contributed to the ferment by taking psychiatry out of the dissecting laboratory and into the clinic of living patients. One result of all of these developments was a renewed interest in the efficacy of psychotherapy. Psychiatrists began to recognize once again the medical value of a constructive intellectual and emotional environment(8).

It was in such an atmosphere that Adolf Meyer began a career that would reserve for him a dominant place in the history of American psychiatry. Diverging partially from the dominant somatic school, Meyer began studying the totality of the individual's personality as well as his environment. Conceiving of mental illness as a maladjustment of the whole personality, he labored to break the hold of Kraepelinian nosology and to incorporate some of the findings of psychology and psychoanalysis into psychiatry. Although Meyer's "psychobiology"—as he called his system—was of an eclectic nature, it harmonized very well with the intellectual, social, and economic forces that were working for reform in American society. Influenced by the belief of American pragmatists in an essentially open and unfinished world that admitted the possibility of innovation, Meyer began the long and arduous process of restoring hope and optimism into psychiatry.

Meyer was well-qualified for his role in terms of both his background and his training. He was born in Switzerland in 1866. Faced with a choice between the ministry and medicine, he chose the latter. He studied under August Forel at the University of Zürich, passing his state examination in 1890. He traveled to England, Scotland, and France, and studied with such eminent figures as John Hughlings Jackson, Thomas Grainger Stewart, Thomas Clouston, and Jean Charcot. Meyer then returned to Zürich to continue neurological research under his old mentor, Forel, and completed a doctoral thesis on the structure of the forebrain of reptiles. Migrating to America, where there appeared to be greater research opportunities, he then accepted a position as pathologist at the Illinois Eastern Hospital for the Insane at Kankakee in

1893, and also taught at the University of Chicago. Although only 27 years of age, Meyer quickly demonstrated those abilities that enabled him to become one of the outstanding and most influential of American psychiatrists. At Kankakee he introduced such changes as competitive examinations for medical internships, a revamped system of examining patients, the keeping of full case histories, and the introduction of regular staff conferences.

Nevertheless, institutional inertia was strong, and Meyer encountered considerable resistance. Furthermore, he disliked the separation of practical routine and scientific work at the hospital, and preferred to combine clinical work with research. Thus when the opportunity arose to go to the Worcester Lunatic Hospital in Massachusetts as pathologist, a position that seemed to hold much wider opportunities, Meyer accepted with eagerness(9).

That Meyer should have been delighted at the opportunity of going to Massachusetts is understandable. Throughout the 19th century Massachusetts had been a pioneer in developing more humane methods of treating the mentally ill. Following the opening of the first state institution at Worcester in 1833, it had founded over the years a comprehensive state hospital system, and had established the first state supervisory board in 1863. Not only was Massachusetts noted for its public hospitals, but its private ones—especially McLean—were among the best in the country. Moreover, Massachusetts possessed a number of institutions of higher learning which were imbued with the new spirit of scientific research. Two such institutions—Harvard and Clark—seemed to offer many opportunities for joint work in the study of mental diseases. Perhaps most important, however, was the existence in the state of a dedicated group of humanitarian reformers with a long tradition of public service. In the 1880's and 1890's these reformers had begun to call attention to the unsatisfactory conditions in the state-supported mental hospital system. In 1893, for example, the Massachusetts State Board of Lunacy and Charity (composed largely of such lay reformers) observed that (10):

Administrative duties . . . are liable to absorb the attention of asylum officers, and a distinctively medical relation to the patients under their care is sometimes lost in the exacting and important demands of executive details. Medical visits, so called, are made at regular intervals, but may, perhaps, amount to little more than a mere "inspection." The vast opportunities for scientific, and therefore useful study, offered by State Institutions, have of late produced but slender results outside of improvements in the housing and classifying of the insane. Laboratories for systematic investigation, even on a small scale, and medical improvement clubs composed of their house officers, are not a part of every Hospital organization, as they well might be if Massachusetts alienists are to keep themselves and their Hospitals in the front rank of similar institutions elsewhere. Training schools for nurses, having a uniform and systematic method, should be conducted in all State Lunatic Hospitals. Their utility has been thoroughly established, and the great gain, both to their teachers, and to those who are taught, and in the resulting care of insane patients, has been amply demonstrated. Although it might require the exercise of a constant ingenuity, the admitted importance of occupation for the insane would seem to justify the expectation of progressing steps toward a solution of that difficult problem. Something more than a long existing routine treatment, into which it is easy to lapse, may properly be looked for in Massachusetts Hospitals.

The following year, heeding Weir Mitchell's criticisms, the Board recommended the appointment of a pathologist at the Worcester or Danvers hospital, whose functions would include research in the nature of mental disease(11).

The proximity of the Worcester hospital to Clark University and President G. Stanley Hall also was an added inducement to Meyer. As a matter of fact, before going to Chicago, Meyer had applied to Hall for a position at the newly-established graduate school. Even at this early date Meyer was seeking a basis for a rapprochement between psychiatry and the new psychology. In the process of concluding all the arrangements with the superintendent of Worcester Lunatic Hospital, Dr. Hosea M. Quinby, Meyer also wrote to Hall of his plans and hopes in December 1895. In this 19-page letter, the original of which is in the Adolf

Meyer Envelope, Registrar's Office, Clark University, Meyer not only drew a graphic picture of the low state of American psychiatry and mental hospitals in the 1890's, but suggested too a series of far-reaching reforms, some of which have yet to be in effect. This letter, which is of considerable historical interest, is reproduced exactly as Dr. Meyer wrote it.

Dec. 7. 95.

President Stanley Hall,
Clark University.

Dear Sir,

In compliance with your note of Dec. 6 [P]. 1895, I beg to submit to you the following notes on the reforms to be suggested at the Worcester Lunatic Hospital, it being understood that this communication is personal.

My aim in coming to Worcester was the organization of a clinic for mental diseases, not primarily for teaching purposes, but as a source of study and investigation. The propositions made to me by Dr. Quinby were, that I should be free of routine duty, "a guide, philosopher and friend" to the assistants and employing my time so as not to feel as if I were frittering it away. He did not suggest a definite plan of work, but left this to me. The encouragement that Dr. [Edward] Cowles had given me and the assurance that you and other members of the University would help me prepare the conditions for work induced me to leave the West and to believe that this hospital offered the first and best chance for my plans.

My first connection with an American institution for the insane taught me the fact that there is a desire for scientific work but that the best friends of scientific work in that Asylum were not trained in its methods and did not know the simplest requirements. I was appointed "pathologist," with the understanding that I should study the nervous system and the changes underlying insanity. Microscope and microtomes I could get; material more than enough for 4 men; with books the difficulty began because back numbers of journals, esp. of foreign journal[s] did not seem to be worth buying on ground of the ultra-wise dictum that in medicine a work is antiquated within 2 years; and also because neither superintendent nor physicians could read them. But the worst and fatal defect was that I was expected to examine brains of people who never had been submitted to an examination; the notes which were available would be full of reports of queer and "interesting" delusions, of logic terms like "disturbed," "noisy," "unable

to get about," "untidy"; but whether there had been delirium or other psycho-pathological symptom-complexes, or a paralysis at the bottom of the "unable to go about," or paralysis of the sphincters-nobody could tell. The information was usually given in that pseudo-medical jargon which a physician may use with lay men in order to make the necessary impression, but which is the death of medical work if carried into medical discussion.

The first task was to try and [sic] interest the physicians in something better. The idea used to be that the autopsy should be made in order to show the cause of death. The clinical diagnosis would be exhaustion and the pathologist had then to find out the rest. The demonstration that in most cases of "exhaustion" the physician should have known of an existing pneumonia or peritonitis, in other words, that the lack of a diagnosis was a carelessness and something unworthy of a physician of ordinary standing, began to call for better reports. I never failed to show that by some method of examination many of the conditions could have been found before death and used as a guide for treatment. A certain plan of record was to be followed in which the methods were indicated and finally the discouraging defense of laziness and ignorance: What is that good for anyhow? began to withdraw from the daily conversation. The lectures on neurology and on mental diseases delivered two evenings a week in winter and in a summer course even one hour every afternoon—roused some interest and finally when I began to examine the new patients myself—always in presence of the staff, after dinner—the desire to follow the methods and the studies became quite general and with it the feeling that the few physicians were not doing the 2100 patients justice. The superintendent who had not gone through all this drilling was not easily convinced of this and used to brag with the fact that in 1875 he had 300 patients to look after and kept his notes well etc. Undoubtedly they were good for the standard of that day in that special hospital; but to-day it is an impossibility to look after more than 100 patients or 150 at the outside and to do all that should be done for the patient and for the profession. Kraepelin has altogether 150 patients and 4 assistants [sic] for them!

The Superintendent and the 3 Trustees (a brewer, a station-agent and a small country banker) could not be moved well enough. But the State Board of Charities, whose president, Dr. Bettman, showed much interest in my efforts, induced Governor Altgeld to ask

the Superintendents to appoint internes who should help the regular assistants. The plan suggested was that of a competitive examination, the only means to undo party-influence and, what is quite as bad, the nepotism of the superintendents and trustees customary in that state. Notwithstanding the most childish stratagems on the side of the Superintendents, who claimed that they could get along without internes and sent articles to the journals intended to scare away applicants and delayed the announcement of the whole matter till about 3 or 4 days before the examination—12 candidates appeared and 5 were chosen.

3 months later, our Superintendent told me, he was sorry that he had not more internes; he never had been so agreeably disappointed. It began to dawn upon him that my policy had been a benefit to the hospital and he entered upon my plans shortly before I left. The chief reasons of my leaving were the fact that I found it impossible to supervise the work of 2100 patients and that the tendency [*sic*] of the Superintendent towards show and bragging display and his position to the physicians did not give the best prospects for quiet patient and honest work. These external developments helped me to formulate the plans for the Worcester Hospital. There are between 900 and 1000 patients and 4 physicians who have never had any special training. They are rooted in the old-fashioned asylum-practice, ready to ask "what is that good for" wherever a new duty is spoken of; They spend an hour in the morning and a small hour in the evening on the wards; for the rest of the time they have to put up their own medicines, write the records (in the office, away from the patients) and write the letters to the patient's friends. There is neither druggist nor stenographer for them. You know the quality of the records; I may say that to me they seem charming illustrations of the "good old" times, if anything, a little worse than those which I found in Kankakee.

Thus I stand again before the task of educating my superiors and associates to the point where they recognize the necessity of all the innovations. They must be: Requiring from the physician to educate himself in order to be able to keep satisfactory observations and records—in return the clerical and drug work must be reduced to a minimum by the appointment of a druggist who would at the same time be able to make chemical analyses and by employing one or two stenographers. There used to be a 5th physician here. His salary should be taken to be divided among 4 internes

or 5, one for each physician; they should receive about \$20 a month (by all means!); otherwise many able men who have to pay for their own clothes etc. would be excluded from the competition. The reorganisation of the work should be carefully prepared, but carried out completely, because half-measures are discouraging and paralysing. The expense of the innovation is small; the salary of the internes would be \$1000 altogether, that of the druggist \$600 and the stenographer \$20 a month. There is evidently perfect willingness to make expenses for laboratory and library, but the question of salaries is always a bugbear in these institutions: the number of employees is always kept below the limit and the "administration" believes that this is economy!

My work here is promising if I get the assurance that I can choose good men. I do not know how Dr. Quinby stands to the question of appointments. So far he would ask the trustees whether he could "go ahead"; then he would pick from his acquaintances or from the acquaintance of his friends and equals a person sufficiently recommended to him—and this settled the appointment. If he appoints men or women who would do under his régime, they would probably not do for what work I want from them. The trouble is that our Superintendents are acquainted among themselves only, but not with the best younger clinicians of this country against whom they have a prejudice and—of whom they are somewhat afraid. Dr. Cowles is free from that because he belongs to one of the best general Hospitals [McLean]; but those who do not, have nothing to do with the rising generation of clinicians, such as Prof. [William] Osler. Recommendations are a dreary thing to go by for appointments. The best plan would be to announce in the best medical schools of the country each medical vacancy and to choose the applicants according to the purpose for which they take up the candidature and their fitness for work as established by a practical examination. Only in exceptional cases recommendations alone should suffice.

As general rules we should put down the following:

1. Every interne or assistant must recognize the necessity of doing the work so that it can be used for clinical investigation; this holds especially for the examinations and records; and he must be able to acquire the training necessary for good work. (Reading knowledge of German and French! at any rate for the assistant-phys.) (At present we are apt to

get men who ask all the time "what is that good for"? etc.; I maintain that there are in this country enough men who have high enough intentions and ideals to accept positions where that question is considered as settled and where the doubt of laziness has made place to the determination for work. Positions in insane Hospitals are despised now because they are known as clerical positions, breeding places for inaccuracy, laziness etc. which would disqualify young men for future work in active competition).

2. Every interne or assistant must enter upon the work with the determination of using every opportunity for self instruction and of contributing to a system of mutual instruction.

3. A man who has not the ability and ambition to contribute some time and energy for the further working out of the medical and pathological observations, is not fit for the position.

(This latter condition is very essential. I avoid the word original research, because it has been misused and does not suggest the right thing).

Dr. Quinby's letter to me contains the remark that I should not have to get acquainted with all the cases, but perhaps follow the more interesting and acute cases. This plan rests on a great fallacy. Frequently those who seem least promising on admission prove to be most important later on; such was at least my experience at the post-mortem Table. Therefore, we cannot decide whether a case is interesting or not without looking at it closely, i.e. without looking at all cases equally well. The best thing to do is to try to get the same examination of each case. History of the family, of the patient (which takes about 1 hour altogether, correspondence included); status praesens (on the average 2 hours, often more), records as often as needed, written on the spot in sight of the patient when the findings are made (the physician dictates to the interne, or for practice the reverse is done). The same holds for post-mortems. Records which are not written to dictation while everything is seen by several people, are not worth the paper and should not be recognised as a basis for further work. We *must* exclude the fallacies of memory and have a certain degree of control given by such cooperation.

These are rules which have made the German Hospitals what they are, although they have and spend so little money. Here positions in insane asylums are nothing but an easy way to become old enough for practice and to save enough money to go abroad or into

practice. This is what the men tell me themselves; and this is why they cannot understand why a position here should be "worth" as much as another better salaried one in a place without a future.—A few words on the work itself: If I have all the help we can arrange systematic courses and mutual instruction in methods of examination, of diagnosis; we must make a study of groups of our cases and compare them with the classical pictures of the literature; find out the differences and the problems suggested by them; the methods of treatment, of psychological and medical observation should always be arranged so that they could be confronted with the present standing of the knowledge in that field and assimilated, or where they show something new we should become conscious of it and recognize the relative value of new observations.

If our expectations of giving trained psychologists a field of work in the hospital shall ever be realized, we must be able to furnish the student all the data of the clinical record; he can not get them himself because it takes much time and practice. If somebody wants to work on heredity, let him go through the histories which wherever possible shall contain a pedigree and a record of signs and causes of degeneration. If someone wants to work on paranoia, let him study the histories of all the cases observed, not only a few "interesting" cases but the whole array—then he will see things in their natural connections.

For this purpose each history must be recorded in an index catalogue for diagnosis, symptoms, causes, treatment etc. This may seem pedantic; but Prof. Osler told me that they carried out this whole system to perfection in old merry England, in Guy's Hospital and that he himself has used it, and undoubtedly owes much of his success to it.

This hasty sketch will, I hope, give an idea of the needs and of the feasibility of the organisation. It is not a question of money but a question of work, and it has the greatest difficulty in the fact that everybody will have to do about twice the amount of work. But then, instead of merely earning a little money each year, the men will be able to carry out something into the community which only Johns Hopkins, McLean and a few other chosen places do now.

Believe me,

Yours respectfully

Adolf Meyer.

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DEMENTIA PRAECOX : THE DEVELOPMENT OF THE CONCEPT

PAUL H. WENDER, M.D.¹

Is there anything whereof it may be said, see this is new? It hath been already of old time, which was before us.

Eccl. I : 10.

The twentieth century historian surveying the concept of schizophrenia bears an uncomfortable resemblance to the eighteenth century physician dealing with dropsy. He does not know whether the term comprises one entity² with one etiology, one entity with several etiologies, a group of similar entities with the same etiology, or a group of similar entities with different etiologies. He can trace the historical antecedents of the concept, but he cannot appraise their validity. He cannot at present date the first recognition of its characteristic attributes, its cause or its natural course, because he himself does not know what they are. Such is the plight of the historian who does not wait until an issue is dead before discussing it.

The implications of the term "schizophrenia" are varied and broad, so broad that, as Campbell suggests(5), it is almost a term of negative reference: the category of all functional psychoses which are not manic-depressive. This would be useful—or at least clear—if the meanings of the terms "functional" and "manic-depressive" were certain, but they are not. Despite the fact that the terms "schizophrenia" and "dementia praecox" have been used almost synonymously, the latter is a much clearer term than the former: dementia praecox refers to a putative group of mental disorders defined by 1) prognosis and 2) age of onset.

The concept of a form of insanity, distinct from but often associated with affective alterations, characterized by its pre-

dilection for the young, its impairment of the intellect, and its progressive course, may be recognized quite early in the history of psychiatry. It is the object of this paper to trace the features of the concept through its crystallization and popularization by Emil Kraepelin in 1896.

In modern Western medical literature the three-fold classification of mental disease may be traced back at least as far as Thomas Willis, a physician who is better remembered for the *circulus arteriosus* which bears his name. In his *London Practice of Physick* (24), Willis distinguished "Melancholy" from "Madness," and these, in turn, from "Palsy" and "Apoplexy" (presumably the organic psychoses). He also observed an intimate relation between the affective disorders and so-called "Madness," a relation that has plagued many descriptive psychiatrists who followed him: "After Melancholy, it remains for us to treat Madness, which is so far ally'd to the other that these affects often change turns, and each passes into the other," he wrote. Two further comments in this work are of interest: on factors that affect prognosis he wrote that madness "rais'd on a sudden from some solemn evident cause, as from a vehement passion, is much safer than invading by degrees"; and in discussing etiology he wrote, that "it is a common observation, that men born of parents that are sometimes wont to be mad, will be obnoxious to the same disease: and that often they have lived prudently and soberly above thirty or forty years, yet afterward without any occasion or evident cause will fall mad." These observations, it will be seen, have been made repeatedly since; it is only their interpretation which has occasioned some dispute.

Pinel is generally regarded as the father of modern psychiatry. In his *Treatise on Insanity* (22), which is distinguished for its exposition on the "moral" (as opposed to the medical and pharmacological) treatment of insanity, is found his classification of mental illness. He based the latter not "on the arbitrary distributions of nosologists" which

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² The use of the word "entity" is currently in disrepute in some psychiatric circles. The author pleads not guilty to the crime of reification; this term, as well as all other nouns, is used merely for convenience.

were "far from being the result of accurate observation and experience" but rather on "the examination of the different species of derangement analitically." To accomplish his end he adopted "that method of investigation which has invariably succeeded in all the departments of natural history, viz., to notice successively every fact, without any other object than that of collecting materials for future use; and to endeavor, as far as possible, to divest myself of the influence both of my own prepossessions and the authority of others." Having approached his problem in this painstaking way, he divided mental illness into: melancholy—a state characterized by preoccupation or delusion with one idea, accompanied by clearness of thought and *either* elevated or depressed spirits; mania—characterized by excitement with or without incoherence of ideas; dementia—a weakness of the understanding and will; and idiotism—"obliteration of the intellectual faculties and affection." "Dementia" was characterized as a "rapid succession or uninterrupted alternation of insulated ideas, and evanescent and unconnected emotions. Continually repeated acts of extravagance: complete forgetfulness of every previous state: diminished sensibility to external impressions: abolition of the faculty of judgement: perpetual activity." It seems probable that included in this group were persons with manic grandiosity, flight of ideas and senile dementia, as well as those with features of "dementia praecox." As regards the etiology of mental disease, and presumably this syndrome as well, Pinel wrote: "the successful application of moral regimen exclusively, gives weight to the supposition, that, in a majority of instances, there is no organic lesion of the brain nor of the cranium."

It may come as no surprise that then as now, unanimity of opinion did not characterize this field. Pinel's contemporary, George Hill, wrote(13): "Insanity is a disease originating from the combination of various mixed sensations with organic lesion and predisposition, producing in this state a certain effect, which without such combination can never exist."

A particular form of insanity associated with youth is delineated in the English medical literature of the early nineteenth

century. John Haslam, in his *Observations on Madness and Melancholy*(10), after describing mania and melancholia, presents a vivid and recognizable clinical picture:

... There is a form of insanity which occurs in young persons; and, as far as these cases have been the subject of my observation, they have been more frequently noticed in females. Those whom I have seen, have been distinguished by prompt capacity and lively disposition: and in general have become the favourites of parents and tutors, by their facility in acquiring knowledge, and by a prematurity of attainment. This disorder commences, about, or shortly after, the period of menstruation, and in many instances has been unconnected with hereditary taint; as far as could be ascertained by minute enquiry. The attack is almost imperceptible; some months usually elapse, before it becomes the subject of particular notice . . . A degree of apparent thoughtfulness and inactivity precede, together with a diminution of the ordinary curiosity, concerning that which is passing before them. . . . The sensibility appears to be considerably blunted; they do not bear the same affection towards their parents and relations . . . If they read a book, they are unable to give any account of its contents . . . It is very difficult to persuade them to write . . . the orthography becomes puzzling . . . As their apathy increases, they are negligent of their dress, and inattentive to personal cleanliness. Frequently they seem to experience transient impulses of passion, but these have no source in sentiment; the tears, which trickle down at one time, are as unmeaning as the loud laugh which succeeds them; and it often happens that a momentary gust of anger, with its attendant invectives, ceases before the threat can be concluded . . . Thus in the interval between puberty and manhood, I have painfully witnessed this hopeless and degrading change, which in a short time has transformed the most promising and vigorous intellect into a slaving and bloated idiot.

George Man Burrows, in *Commentaries on the Causes, Forms, Symptoms and Treatment, Moral and Medical, of Insanity*(4), described a particular form of intellectual impairment and discussed its relation to the affective disorders (later defined in detail—as we shall see—by the German psychiatrists). On the intellectual alterations he writes: "It is a defect or a hebetude of the understanding, general or partial, confined

to individual faculties of the mind, particularly those concerned in *associating and comparing ideas* [my italics]; whence proceeds great confusion and incapacity of arranging the thoughts." In discussing the relation to the affective disorders he writes: "Demency may alternate with mania or melancholia, or it may, which is more usual, be the sequel of either." The absence of any clear-cut psychological precipitating factor forced the author to propose a constitutional cause. Age of onset and deteriorating course were again advanced, as in Haslam's writings:

Deterioration of the intellectual faculties sometimes arises from a constitutional and inexplicable cause. I have seen instances of youth, in whom more than ordinary abilities have been displayed, and who, up to the period of puberty, have made all due progress in their studies; yet when they have arrived at that epoch at which all their mental faculties are usually developed, have gradually retrograded, til a perfect state of chronic demency, or rather idiocy, has been established.

Historical researches might well stop here: Haslam and Burrows have together stated the Kraepelinian characteristics of endogenous cause, early onset, and deteriorating course, and the Bleulerian stigmata of dissociation of thought and emotion, and withdrawal (autism). However, their contributions have apparently been overlooked by modern psychiatry, if not by their immediate successors. Observed phenomena (as is so often the case in psychiatry) did not long go begging for an explanation. The English psychiatrist Millingen wrote in *Mind and Matter* (21): "Mental disorders generally become manifest after the age of puberty. At this time a revolution of the whole system takes place . . . Instinctive impulses associated with the [gonadal] development now act upon corporeal emotions and mental faculties. At this time of our existence there arises a conflict between the mind and the body."

Until now discussion of the many confusing and complicated nosologies which flourished in nineteenth century psychiatry has been avoided. A good example is the work of Wilhelm Griesinger, a prominent German internist and psychiatrist, whose *Men-*

tal Pathology and Therapeutics (9), first published in 1845, was a standard German textbook of psychiatry until that of Kraepelin. Aside from the nosology, this book is remarkable for its clarity of style and thought.

To begin with, Griesinger distinguished dementia paralytica (no mean accomplishment in 1845), and divided the remaining disorders into the two, by now familiar, categories: 1) disorders of morbid emotional state (with secondary consequences); 2) disorders of false mode of thought and will. (The obviousness of this grouping was acknowledged by an English contemporary, Tuke, who stated (23): "Griesinger has observed that all classification of mental disease must in the end return to the principal forms of insanity, mania (whether acute or chronic), melancholia, and dementia . . . because they are really founded on nature.")

To Griesinger the first group, the affective disorders, represented both a distinct entity, and a commonly occurring stage in the development of the second group. Diseases in the first group, he thought, were usually curable, but after having developed into the second group they were not; he believed that permanent structural alterations of the brain were present in the latter but not the former. It is probable that his beliefs of structural change were related to his observations of prognosis.

Because the nosologic difficulties with which he contended have not yet been satisfactorily resolved, it is of interest to present his solutions; for in psychiatry, as in philosophy, one cannot be sure that the ancients were wrong. The first group, the morbid emotional states, he divided into *melancholia*, *mania*, and *monomania*; the second group, the disorders of false mode of thought, he divided into *chronic mania* and *dementia*. Forms of melancholia were the *hypochondriacal form* in which somatic delusions and hallucinations were prominent; *melancholia in a limited sense* in which depressive mood represented the principal alteration; and *stuporous melancholia*, in which unresponsiveness and mutism were conspicuous. The perspicacious Dr. Griesinger, unwilling to multiply entities, explained that most of the symptoms of melancholia could be regarded as reactions to the primary alteration; he recog-

nized rationalization, and stated that the patients' guilt and self-reproach represented their efforts to explain their mood changes. His case reports of melancholia now seem to include some catatonic and possibly schizophrenic patients. (Before becoming too critical we may reflect on some modern diagnostic schemes which place involutional melancholia, with its frequent hallucinations and delusions, in the same class with pure "manic-depressive psychosis" (1, 19).) Griesinger realized that something might be amiss, for he noted that some stuporous melancholics remembered their state while others did not; and it was this feature which Kraepelin later proposed as the crucial diagnostic difference between depressions and catatonia.

Griesinger's next major subdivision was *states of mental exaltation*, which were defined as persistent states of excitement and exaltation of will, accompanied by increased self-sensation and self-consciousness. These were divided into: *mania*, usually a transient state, in which increased motor activity and excitement were predominant; and *monomania*, which tended to be fixed, and in which the abnormal ideational features of false conceptions and delusions and grandiosity were more conspicuous than the mood change. Griesinger's characterization of "monomania" (which bears a marked resemblance to current "paranoia") as a variant of mood elevation is of some interest; although Kraepelin later separated paranoia and mania, some modern psychiatrists are again noting their dynamic similarities and are considering them to be allied. Griesinger's second major category was that of *states of mental weakness*, which were, as noted, successors to the affective states, and were characterized by weakness of intellect and volition, and which might be accompanied by the suppression or total lack of emotion. His descriptions of these states has a familiar ring.

It may proceed to total abolition of all the mental faculties, with which there is also combined weakness of the emotions and will, want of energy or complete loss of volition, and dullness of the emotions, bluntness of the moral nature arising from the absence or superficiality of reactionary power—or the mental weakness is in a measure concealed by the promi-

nence of certain delirious conceptions, whose obstinate persistence is significant of all the remains of mental power and behind which all is a void.

Griesinger believed that there were two groups: *chronic mania* and *dementia*. He defined chronic mania as the persistence of the delusions and hallucinations seen in monomania after the resumption of normal mood. As previously noted, the latter state was considered to be an intermediate one between "mania" and "paranoia," isolating a frequently seen syndrome.

He characterized dementia by mental weakness with no single delirious idea; individuals in this state, he believed, might be either hyper- or hypo-reactive—*dementia agitée* or *dementia apathétique*. In these states he recognized that emotion is both superficial and inappropriate, and intellection is compromised by concreteness and poor ability to abstract. Griesinger's otherwise fine performance is somewhat spoiled by his inclusion of cases of chronic brain syndrome with intact past and poor recent memory.

According to Griesinger, all those with dementia may either recover (always with permanent intellectual defect—cf., Bleuler) or terminate in an apathetic state of marked deterioration. Although Griesinger's beliefs about prognosis are irrelevant to the main theme of this paper, they should be mentioned, since they are, like his other ideas, surprisingly modern. He stated: 1. In general, the prognosis of melancholia is better than that of mania, which is, in turn, better than that of dementia. 2. Acute onset is more favorable than insidious onset. 3. A good prognostic sign is the possession of insight, or the patient's regarding the symptoms as foreign to *das Ich* (ego). 4. If recovery takes place, it usually does so within one year. The overall outcome figures are 2/3 discharged (half of these cured and half 'socially cured'). To be sure, the composition of the patient population studied by Griesinger is unspecified; although these figures include patients with the affective disorders (and a good prognosis), they presumably also include those with neurosyphilis (and a very poor prognosis). At any rate, the percentage of patients who

require chronic hospitalization has remained startlingly constant in the intervening 100 years: Bleuler's(2) figures in 1911 being 22% to 40% (comprising patients with "medium" and "severe deterioration"—patients in both classes being incapable of self-support); and Freyhan's(8) in 1955 likewise being 22% to 40%. Both Bleuler's and Freyhan's figures refer to the category of schizophrenia.

As may be seen, a mental disorder with a definite symptom complex had been clearly identified by 1850. This complex lacked only one essential—a name. It is well known by primitive peoples that one has considerably more power over a demon when one can name it; this verbal magic is not unfamiliar to the medical profession, which accords more status, or at least more recognition, to named syndromes. The honor of naming dementia praecox fell to B. A. Morel, and this not insignificant contribution may be found in his 1860 textbook, *Traité des Maladies Mentales*(20). The author had the laudable intention of finding a unity of cause, course and outcome of mental disease; his conception of the course is one that is met with frequently: melancholia to mania, to confusion, to either paranoia or dementia. In describing such a case, Morel writes:

My memories carry me back sadly to a case of heredity in a progressive form . . . An unfortunate father consulted me one day about the mental status of his child, age thirteen or fourteen, in whom a violent hatred for the originator of his days had suddenly replaced the most tender feelings . . . He was downhearted at being the smallest in his class, although he was always first in his composition, and this without strain and almost without work. It was, so to speak, by intuition that he understood things, and that everything was arranged in his memory and intelligence. He lost, insensibly, his cheerfulness, became somber, taciturn, and showed a tendency to isolation . . . The state of melancholy depression of the child, his hatred for his father which extended to the idea of killing him, had another cause: his mother was a madwoman, his grandmother eccentric to the last degree. I ordered the interruption of the child's studies and his confinement in a hydro-therapeutic institution . . . He grew considerably, but another phenomenon as disquieting as those mentioned above

came to dominate the situation. The young patient progressively forgot everything he had learned; his intellectual faculties, formerly so brilliant, underwent a very disturbing period of stoppage. A sort of hebetic-like torpor replaced his former activity, and when I revisited him, I judged that the fatal transition to the state of *démence précoce* was in progress. This desperate prognosis is normally far from the minds of parents—as of doctors—who bestow their care on these children. Such is, nevertheless, in most cases, the dire termination of hereditary madness.³

A syndrome had now been named, but how was it fitted into the nosology of so-called "mental disease"? Classificatory schemes abounded in the late nineteenth century, and the unhappy distant spectator is hard put to superimpose coherence. They were constructed on a variety of frameworks, empirical and theoretical. Griesinger's is primarily empirical. On the other hand, Tuke, an English psychiatrist, accepting the ancient division of the mind into the faculties of intellect, emotion and volition, constructs(3) a classification based on aberrations of each faculty. Inspection of his examples reveals that "dementia praecox" falls in all three. A scheme in which the categories are mixed theoretical-empirical, and apparently neither exclusive nor complete, is that of Kahlbaum(15). It is four-fold: 1) *vesania*—total insanity; 2) *vercordia*—manic-depressive states and paranoia; 3) *dysphrenia*—symptomatic psychoses; 4) *paraphrenia*—age-based psychoses, divided into neophrenia, hebephrenia, and presbyphrenia.

At approximately the same time that the above mentioned authors were describing the syndrome, the individual "disease" pictures that Kraepelin was later to synthesize were being described. The *locus classicus* for "paranoia" is uncertain: like "melancholy," it is a term of classical vintage, and it is difficult to ascertain when it was first employed in a sense approximating the modern. Jelliffe(13) attributes its introduc-

³ Morel gives no follow-up of this case. One wonders whether "forgetfulness" refers to a defect of memory or is his interpretation of withdrawal; similarly, one wonders if Morel uses "fatal" in the metaphorical or literal sense. It is ironic that the first case history labeled *dementia praecox* may have been one of congenital neurosyphilis.

tion into psychiatry to Heinroth (*Lehrbuch der Störungen des Seelenlebens*, 1818), who, having divided the mind into intellect, will and feeling, and mental disease into exalted, depressed, and confused functioning of these faculties, applied "paranoia" (with and without a number of qualifiers) to several of his 9 categories. Meyer attributes it to Ellinger in 1845, while Tuke (23) accords the honor to von Gudden, who employed it "in regard to the mental malady under which Leopold II of Bavaria labored."

In 1871 Hecker (11) described an entity which his mentor, Kahlbaum, had called "hebephrenia." Its major features were: 1) onset soon after adolescence; 2) alternation of various states—mania, depression, and confusion; 3) an exaggeration of normal adolescent features so that the spirit became like the body of a clumsy adolescent; instability of mood, varying between flatness and sensitive irritability with sudden seriousness and preoccupation with profound ideas alternating with outbursts of laughter; softening of logic and inability to stay on a subject; 4) the early appearance of some characteristic signs of, and the rapid progression to, the terminal state. The etiology was obscure and the prognosis very poor.

In 1874 Kahlbaum (16) published a paper describing "catatonia," a clinical form of psychic illness, in which he called attention to the common occurrence of particular mental symptoms and muscular signs, resembling in some ways, and differing in others from dementia paralytica. The course and manifestations also bore some resemblance to the affective disorders; hypochondriasis or neurasthenia precedes a mania-like state which might in turn be followed by a depression-like state. The exalted state, he observed, differed from pure mania in that the speech was more obviously disorganized. In the quasi-depressive form the patient was mute, inattentive, expressionless, unresponsive to painful stimuli, and exhibited a unique physical sign: "waxy flexibility." Other motor phenomena of note were manneristic behavior and marked negativism. In general the aberrant thoughts dealt with sexual and religious matters. Kahlbaum regarded the disease as non-hereditary and although he believed or-

ganic pathology was demonstrable he believed the predominant causative agents were psychological: a seclusive, contemplative mode of life, combined with an over-concern with intellectual matters. The prognosis he thought was fair, both for the individual episode, and the eventual outcome, despite the fact that recurrence might occur.

By 1874 the stage was set: the future divergent points of view with regard to etiology (congenital vs. acquired, organic vs. social) had been stated, the symptoms of "dementia praecox" had been characterized, and several symptom groups had been recognized. What remained for Emil Kraepelin was to identify, or perhaps more accurately *create*, the entity "dementia praecox," as it was later almost universally understood.

But before discussing Kraepelin, it is necessary to mention one more figure, whose ideas strikingly anticipated Kraepelin's contributions: In 1886 an English physician, T. S. Clouston, delivered the presidential address (6) at the annual meeting of the Medico-Psychological Association, in which he stated that in attempting to isolate the essential features of insanity, it might be well to pay less attention to the symptoms, which were too diverse, and instead, to categorize by clinical course and prognosis.

We now turn to Emil Kraepelin, who, it seems, has been as frequently belittled as infrequently read. In 1896 the fifth edition of his *Textbook of Psychiatry* was published. Not surprisingly, it included the author's own classification of mental disease. An evaluation of the rest of the scheme is not pertinent in this paper, but in his classification we finally encounter the term "dementia praecox" applied to a *group* of diseases. By now the psychiatric literature abounded in heterogeneous categorizations in which presumably exclusive groups had criterial attributes which might be etiological, descriptive, prognostic, or theoretical. Kraepelin's grouping is comparatively clean-cut, being based predominantly on etiology and symptomatology—except for one "disease." He divided psychoses into the exogenous, which may be curable, and the endogenous, which are not. Mental disease

was divided into (17): 1) infectious psychoses; 2) exhaustion psychoses; 3) intoxication psychoses; 4) thyroidogenous psychoses; 5) dementia praecox; 6) dementia paralytica; 7) organic dementia; 8) involution psychoses; 9) manic-depressive insanity; 10) paranoia; 11) general neuroses; 12) constitutional psychopathic states; 13) defective mental development. Following Clouston, Kraepelin decided to form a subgroup of mental diseases utilizing two infrequently employed indices: age of onset and course. Youthful onset and progressive deterioration were its defining characteristics, and under Morel's term he placed (following, he says, Pick in 1891) Hecker's "hebephrenia," Kahlbaum's "catatonia," and "paranoia."⁴ These disease entities had, he believed, several other major characteristics in common that distinguished them from the other disease entities of unknown etiology. These will be discussed later. Kraepelin's 13 categories yield, with some manipulations, the familiar five-fold classification. By combining the infectious, exhaustion, intoxication, thyroidogenous, and organic psychoses with dementia paralytica and congenital mental deficiency, we arrive at: 1) organic psychoses; 2) neuroses; 3) psychopathy; the psychoses not grossly organic; 4) dementia praecox; and 5) manic-depressive psychoses. The major contribution is reminiscent of Griesenger: separating the affective, periodic, self-limited processes from the predominantly intellectual and volitional chronic progressive ones. What Kraepelin put asunder, many have since attempted to join together (*e.g.*, the "schizo-affective" psychoses). Having grouped together these three putative disease entities (catatonia, hebephrenia, and

paranoia), Kraepelin methodically examined their signs and symptoms; these are listed in scholarly detail in the eighth edition (18). The differentially diagnostic features between the gross brain lesion and "toxic" psychoses on one hand and dementia praecox on the other were carefully detailed. They still are the ones usually employed: the presence in "dementia praecox" of correct orientation, good recent memory, and accurate perception even during periods of apparent confusion (as determined subsequently).

In the sixth edition two areas caused Kraepelin obvious difficulty. The first relates to paranoia. Kraepelin apparently had some qualms about placing it in the category of dementia praecox because it often developed slowly late in life, and failed to terminate in complete "dementia," the person so afflicted often retaining well-systematized thinking, while on other occasions deterioration occurred rapidly. He attempted to resolve this problem by placing patients with the latter characteristics in the category of dementia praecox, paranoid type, and others in the category of "paranoia," which he later called "paraphrenia." The second major difficulty—which is only tacitly stated—is that of distinguishing catatonic excitement from mania; criteria were given, but it is obvious that at times they broke down.

Criticism was directed at a variety of aspects of Kraepelin's work, and in the eighth edition of his textbook we can detect his attempts to deal with two of these points: the age of onset and the universally bad prognosis. In this edition the author admits that the disease may have its onset late in life and that some—to be sure a very few—cases do *seem* to recover.

Now, having abandoned the defining characteristics of age and prognosis, Kraepelin was forced, if he was to keep the entity, to employ other defining criteria. Accordingly the common characteristics of these states were decided to be: "weakening of those emotional activities which permanently form the mainspring of volition"; "a loss of inner unity," the latter being strongly dependent on the first, since, he believed, strong volition gave coherence to thought and action. In addition, he listed

⁴ The last familiar "member" of the family, dementia simplex (simple schizophrenia), was first named and described by Otto Diem in 1903 (7), and is included by Kraepelin as one of the important sub-groups in the 8th edition of his textbook (18). Diem believed that dementia simplex shared the characteristics of the other sub-group, beginning in youth and terminating with the same abnormalities of intellect and emotion. Its defining characteristics were negative: gradual progressive deterioration, without the acute episodes and remissions, or definite mood swings, hallucinations, delusions, *etc.*, which were seen in hebephrenia, catatonia, and paranoia.

the multiple symptoms previously alluded to. Such rearrangement of defining attributes is a perfectly legitimate—and characteristic—step in the development of scientific classification, but what is striking in the eighth edition is the multiplication of sub-categories, many of which were defined largely by their affective qualities. (For example, hebephrenia was divided into dementia simplex, silly dementia, simple depressive dementia, and delusional depressive dementia; the terminal states were divided into simple, hallucinatory, and paranoid weak-mindedness, and drivelling, dull, silly, and manneristic dementia.) One gets the feeling that Kraepelin, trying to break a continuum into discreet intervals, was utilizing smaller and smaller units in an effort to approximate the truth. One must appreciate Kraepelin's honesty in recognizing that the complex data failed to fit a simple theory⁵—a state of affairs which current psychiatry, with its frequent attempts at simple universal formulations, often fails to recognize.

It is usual to conclude an essay with conclusions, but this author, somewhat unwillingly, is unable to do so. Perhaps the most appropriate conclusion can be found in the work of an American author, Alexander Bryant Johnson, whose inclusion in this essay is fitting as a forgotten man (he virtually created the science of semantics in the early nineteenth century, many years before it was rediscovered). In his *Treatise on Language* (14), he attempted to demonstrate that men are as often used by, as they are users of, language, and that mistaking words for things, men are often led astray. His statement of one of the difficulties which misleads physicians is pertinent to present day psychiatry and the problem of dementia praecox.

The identity which language implies is responded to by nature very nearly, or we could possess no medical science; but the most skillful physician is often defeated by the individualities of nature. Physicians have long noted these individualities, and deemed them anomalous.

lies of nature. The anomaly is, however, in language, which unites under one name, as identities, what is only partially identical. Individuality is no anomaly of nature. It is nature's regular production, and boundless richness.

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⁵ Kraepelin's own view of the imperfection of psychiatric knowledge is expressed in a statement he was fond of repeating: "Wir stehen noch immer am Anfang."

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THEORIES OF PSYCHOPROPHYLAXIS IN OBSTETRICS (PROPHYLAXIS OR THERAPY)

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At the present time, by far the most widely used method of drugless analgesia in childbirth is the psychoprophylactic method (PPM), as described in 1949 by the Soviet psychiatrist Velvovski and applied in the Soviet Union and Eastern Europe. Introduced into France by Lamaze(12) in 1952, it was actively supported by the Catholic Church(19) and it spread rapidly through the "Latin countries" of Europe and the American continent.

The method comprises instruction in relevant anatomy and physiology, training in techniques of relaxing, breathing and taking an active part in labour, and the establishment of a good emotional atmosphere (the elements of "mental hygiene" or "verbal asepsis," in the Russian terminology). The main purpose of the method has been to do away with pain during labour. There is no device for measuring pain. The only criteria are the observed behaviour of the woman and what she herself says, both restricted by subjectivity. Nevertheless, it does seem that psychoprophylactic preparation lessens pain, even to the extent of abolishing it altogether in some women. But in addition to the analgesic effect, it has been claimed that it offers other benefits on the psychological level, those of conscious and active experience of childbirth, beneficial and maturing for the mother. Moreover, psychotherapeutic effects may include purely obstetric benefits at the physiological level (facilitating labour). Finally, the reduction or discontinuance of toxic drugs should be of benefit to both mother and infant.

All these advantages have not yet re-

ceived absolute objective, experimental verification but one can certainly say that the psychoprophylactic method has greatly modified the patient's surroundings in the labour ward, and the attitude of doctors and hospital staff towards her.

Although the practical effectiveness of the method is scarcely questioned, its theoretical interpretation is very much in dispute. Its proponents have called it "psychoprophylactic," and not "psychotherapeutic," i.e., have assigned it the task of *preventing* pain.

All the theoretical discussion centers around this problem: prophylaxis or therapy. In order to attempt an answer to this question, it may be useful to trace briefly the origins of the method.

Origin of the Psychoprophylactic Method. Like some other modern psychological treatments, the method is an offshoot of hypnosis. For 25 years, following the work of the French school of the 19th century and the German school of the period 1920-1923, Soviet writers had been putting to experimental test a *psychotherapeutic* method of achieving pain-free labour, the hypnosuggestive method (HSM)² and came to the following conclusions(20, 23): 1. Pain is not an inevitable accompaniment of labour. 2. Verbal suggestion may have an immediate or delayed effect. 3. Certain variants of suggestion may be used, especially indirect suggestion. 4. Fear is a very important factor in pain during labour.

The Soviet writers for some time thought of using the HSM on a large scale. But when this proved to be impossible, Velvovski described a new method which he called the "psychoprophylactic method" or "system of psychoprophylaxis." In this method, *hypnosis* and *suggestion* were gradually replaced by *persuasion*. The aims of this procedure were to *convince* the expectant mother that pain during labour is not unavoidable and to remove fear. This was

² For a detailed account of the history of drugless methods of analgesia, see (5).

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achieved by teaching the anatomy and physiology of childbirth and by talks aimed at reassuring the expectant mother. To this verbal instruction was added training in pain-preventing "exercises" or "procedures" (rhythmic breathing, stroking of the abdomen, etc.) to be applied during contractions of the uterus.³

Velvovski interpreted the new method, developed in response to practical requirements, in theoretical terms which contrasted it with the HSM (23). While the aim of the latter is supposed to be to *abolish* or to reduce pain, Velvovski considers that his method *prevents* pain.

Velvovski's basic assumption is that labour is normally painless. If it is nevertheless most frequently painful, this is because of psychological and socio-cultural forces of a "conditioned" nature. The mechanisms by which the two methods work are likewise contrasted. For Velvovski, the PPM makes use of the physiological processes of cortical excitation or activation, i.e., *activity*, the HSM or cortical inhibition, i.e., *passivity*.

The "translation" of these psychological realities into physiological terms is a continual source of ambiguity. This kind of outlook can be attributed to the general orientation proposed in 1950 at the joint meeting of the two Soviet Academies (Science and Medicine), in which it was recommended that psychological concepts should be expressed in terms of Pavlovian physiology. Since 1956, there has been a tendency to let psychology have its autonomy back again.⁴ But this new point of view is not

found in publications on the PPM since then.

Theoretical Controversies in the Soviet Union. The PPM has been the subject of many controversies within the Soviet Union itself. The most important of these took place at the Leningrad Congress of 1951 (7) and the Kiev Congress of 1956 (8). We have reported on these elsewhere (5). The theoretical explanations have been challenged, in particular on the following points: 1. It has not been proved that labour is normally painless (3, 16). 2. The use of the term "conditioned" to apply to pain during labour is a misuse of the term. Davidenkov (9) gives an example of "conditioned" pain. If a pin-prick is associated with the light of a lamp which is switched on, the light itself can later induce pain. But he asks why, if pain during labour is associated with the whole environment in which labour takes place, it disappears after delivery. 3. The element of suggestion is not absent from the method (11, 22).

It is clear from the above criticisms that the contrast which Velvovski makes between a *psychotherapeutic method* and a *psychoprophylactic method* is by no means generally accepted. It lacks an experimental basis, and it is also worth noticing that few physiologists had any part in the development of the PPM. This is, indeed, constantly deplored by Nicolaiev, one of its proponents (17). Nicolaiev has proposed a change in the name of the method (18). In fact the development of the name itself also reflects a certain theoretical fluidity. The first name given (1949) was "system of psychoprophylaxis of the pain of childbirth." At the Kiev Congress (1956) the name was changed to "the psychoprophylactic method of preparation of expectant mothers for childbirth."

To emphasise the importance of physical preparation, which he himself introduced, Nicolaiev suggests that the method should now be called "psycho-physio-prophylactic preparation for labour" (18). For him, the "physio-prophylactic" aspect includes, in addition to gymnastic exercises (physical culture), such physical methods as ultra-violet rays, heat, cold, showers, etc. This raises the physical resistance of the organism

³ For detailed technique see (5, 12, 23).

⁴ This was indicated by the appearance in *Kommunist*, 4: 87, 1956, of an editorial article entitled "On closing the gap between theory and practice in psychology."

An important meeting was held May 8-12, 1962, the All-Union Conference on the Philosophical Problems of the Physiology of the Higher Nervous Activity and of Psychology (summary in Korsakov J. *Neurol. Psychiat.*, 62: 1578, 1962; also echoed in *Am. J. Psychiat.*, 119: 586, 1962). At this conference, decisions against certain dogmatic interpretations of the decisions of the 1950 meeting were taken, and psychology was officially re-established and raised to the status of an independent science.

and reinforces the use of suggestion in the method.⁵

There appears to be a tendency among Soviet obstetricians at the present time to emphasise gymnastic exercises and other physical procedures. For example, a recent article by Rechetova(21) describes a technique, in which two aspects are added to the classical psychoprophylaxis, namely, diet and physio-prophylaxis, the latter including both gymnastic exercises and other physical procedures.⁶

Views of French Writers. These controversies have not had much place in theoretical writings by French followers(1, 24) of the PPM. For long they used the terminology of Pavlovian physiology, adopting in the main the ideas of Velvovski who contrasts

suggestion and persuasion, and attributes mutually opposed physiological processes to them.

A change began to appear in 1957. It was agreed that the first theoretical treatments of the method were, in the words actually used by one of them, "rough and narrow"(15). New points of view were expressed. Vermorel(25) abandons the use of Pavlovian terminology to "translate" psychological phenomena, and resorts to a language which uses a number of concepts in their psychoanalytic sense—*anxiety, unconscious motives, fantasies, orality, transference, etc.* He makes frequent reference to authors such as Helen Deutsch and Gressot. For him, the PPM is first and foremost a form of instruction (pedagogy). But he explicitly states, "It is its psychotherapeutic effects which are being studied." This refers, of course, to a superficial specific kind of psychotherapy, limited to pregnancy and labour.

Angelergues(2) favours "the perfectly legitimate rejection of Pavlovian ideas in psychology and psychopathology." He does not, however, turn to the concepts of interpersonal dynamic psychology to replace them. He admits that Pavlovian ideas are still valuable in relation to *training* (learning), which is for him the basis of the PPM. He believes that there is some "accidental and fortuitous" psychotherapy in all training, but considers that it is negligible, holding that true psychotherapy is that which effects structural changes in the personality. Training, he says, "has as its aim adjustment of the woman to a specific situation, and can attain this end only in so far as this situation is experienced as an event relatively isolated from the drama of the self. In preparing the woman, we work to provide her with a weapon against herself, by using the processes of conditioning."

Another French writer, Muldworf, is one of those who seem most attached to the explanatory value of Pavlovian physiology for the method.

He agrees that we must "transcend the physiological narrowness of misinterpreted Pavlovism," but immediately adds that "Pavlovian experimentation is still the basis on which the theory of psychoprophylaxis is erected"(14). Since the physiology of

⁵ Nicolaiev is inaccurate when, to emphasise the importance of gymnastic exercise, he cites the case of Lamaze's technique in which 6 lessons of 10 are given by physiotherapists. The physiotherapists certainly do not give gymnastic exercise a dominant role in preparation. Nicolaiev clearly confuses relaxation and physical culture. Note that in the Soviet Union, the former is thought of as a procedure dependent wholly on suggestion (production of hypnoidal states which "reinforce" the theoretical instruction and the training in the "pain-preventing procedures"). Hypnoidal relaxation exercises were eliminated from current preparation about 1954, and reserved for difficult cases. They were still in use at the time of Lamaze's visit to the Soviet Union in 1951. Lamaze interpreted them as muscular exercise and introduced them under this heading into the technique which he was to develop on his return to France (from which there has arisen much confusion over the interpretation of relaxation, cf. (6)).

⁶ In this way, one of the differences between the PPM and Read's method, which has often been emphasised, would disappear, i.e., thinking of the former as "mental" and the latter as "physical." Some proponents of the PPM have actually taken the view that gymnastic exercise is quite useless, since pain is a cortical and not a muscular problem.

There were acrimonious disputes on theoretical and practical aspects for several years between the proponents of the two methods(5). Those who practised the PPM reproached the others for the inefficiency of their method. The First World Congress on Psychosomatic Medicine and Childbirth (July 8-12, 1962) brought both parties together in Paris, and a discussion of both points of view resulted in peaceful coexistence. Nicolaiev, one of the proponents of the PPM in the Soviet Union, wrote after the Congress, "In spite of having a different ideological and theoretical basis, both methods, when properly used, give satisfactory results" (Akush. Ginek., 1 : 149, 1963).

conditioning is "a very complex experimental entity," "beyond our scope," Muldwarf abandons any attempt to explain pain during labour and psychological analgesia on the basis of the formation or extinction of conditioned reflexes. "This," he says, "would be an illegitimate and anti-scientific transposition from one field—physiology—to another, psychology" (15).

He also wants to see psychoprophylaxis above all as a form of instruction, this term including both education and training. He considers that there is at present no psychological theory which takes due account of instruction, and he criticises psychoanalysis in particular. There remains "empirical," rational psychology, which persuades and informs, helps the woman to resolve her present conflicts, guides her towards the solution of her difficulties, reduces her negative emotions and so on.

On the problem of the nature of pain during labour, Muldwarf (13) takes a position close to that of Velvovski. He considers that childbirth is normally painless, and that pain is the result of psychological and socio-cultural factors. Thus the effects of the method would be at a *prophylactic* level.

Critical View. The controversies among Soviet writers, and the various points of view among French writers, confirm that the PPM has not yet acquired any solid theoretical basis. The relations between psychoprophylaxis and psychotherapy are not made clear.

The problem of the analgesic effect of instruction, education and training remains controversial. The French writers mentioned above recognise the psychotherapeutic value of instruction (learning), but do not indicate the respective parts played by the intellectual aspects, the affective aspects and the motor aspects of which it is made up. If mere knowledge by itself does not appear to have any direct analgesic effect, the affective aspect, introducing an interpersonal element, opens the way to experimentally demonstrated analgesia. At a different level, a degree of analgesia can be achieved by using pain-preventing "procedures" based on "cortical activity" or distraction of attention, previously also known as indirect suggestion.

We may now wonder whether all instruction, all training, every acquisition or enrichment of the ego (whether it involves learning a foreign language or learning to ski) does not modify the deeper layers of the personality of the person concerned, with eventual repercussions on sensibility to pain. But this is only a hypothesis for which it would be difficult to find experimental support, given the numerous links of the chain between cause and supposed effect.

The point of view of Angelergues, who would enclose the pregnant woman in her own particular state, an abstraction from her personal drama, by representing childbirth to her as a job of work, a particular task to accomplish, requiring an active, conscious mental attitude, inspires a few remarks. First of all, is such an attitude sufficient to effect analgesia, in view of the fact that the pain in childbirth is influenced by deeper levels? Second, if analgesia is achieved, is it not in large part due to suggestion, to the "exhortations" of the person who is doing the preparing? Finally, if it is desirable for the woman to be active and cooperate, it is also necessary to ensure that her activity is not pushed too far, and does not encourage masculine protest reaction. For then the very activity which according to Angelergues should keep the woman away from neuroticism would paradoxically end by leading her there.

Is the psychotherapy in psychoprophylactic instruction genuine psychotherapy? The answers given by the writers considered are reserved and ambiguous. Vermorel agrees that in the PPM, as in all psychotherapy, there are affective changes. "The doctor or midwife" he says, "plays a role analogous to that of the parents for the young child." But he equally asserts that "the psychoprophylactic method is not, properly speaking, psychotherapy in the strict sense of the term; it is rather a kind of instruction, with secondary psychotherapeutic effects" (25).

For Muldwarf, "psychoprophylaxis is a kind of training, not of psychotherapy. It is a form of instruction with psychotherapeutic aims and effects, but it is not a form of psychotherapy in the proper sense of the term" (15). Angelergues, as we have seen, refuses to place psychoprophylaxis among

the psychotherapies. Our own view is that the woman who receives instruction, theoretical and practical, with a view to painless childbirth at once puts herself in a psychotherapeutic situation. It is true that this does not mean *deep* psychotherapy, as Angelergues emphasises, but this is not sufficient reason for refusing, like Angelergues, to allow it the very name of psychotherapy. With the PPM, if we do not have to do with psychotherapy which includes introspection, interpretation, *etc.*, nevertheless the woman finds herself in a net of relationships, and psychodynamic forces are aroused. This might be viewed as a kind of short psychotherapy, superficial, gratifying, invigorating and so on. It often yields speedy positive results, for pregnant women are particularly receptive. In fact, pregnancy provokes an affective "crisis" (4, 10) in all women, for they appear more neurotic than they really are; and a brief and superficial psychotherapy may then be effective. But it seems to us that this can be effectively given by the obstetrician, who thus remains "the central and directing person" as Angelergues requires (2). It is true that it is desirable for him to take an interest in the psychological aspects of his relations with the future mother, but this is something to be found in every act of medical practice. In this, he will find an adviser in the person of the psychiatrist attached to his unit. The role of the psychiatrist will be more important in cases with clear psychopathology requiring specialised psychotherapeutic care.

An Attempt at Formulation. We shall now return to the question with which we started—analgesia by psychotherapy or by psychoprophylaxis? In order to answer this question, we should have to know precisely the physiological mechanism of analgesia in each of the methods concerned. But the criticisms which we have just made are sufficient proof that we know no such thing. We only know, in an empirical way, the analgesic power of suggestion, direct or indirect. This does not exclude the possibility of other more complex analgesic mechanisms at other levels, the effects of which are less apparent. The psychological interpretation of these various mechanisms of analgesia offers a vast field for research. But

from our own experience of this research, we are aware of the great methodological difficulties it runs into. The integration of the psychological and the physiological requires extreme care, and Velvovskii's theoretical accounts are full of ambiguity precisely because in them he has systematically translated the former into the latter. As things are at the present time, the psychological frame of reference still seems to us the better fitted for handling clinical reality.

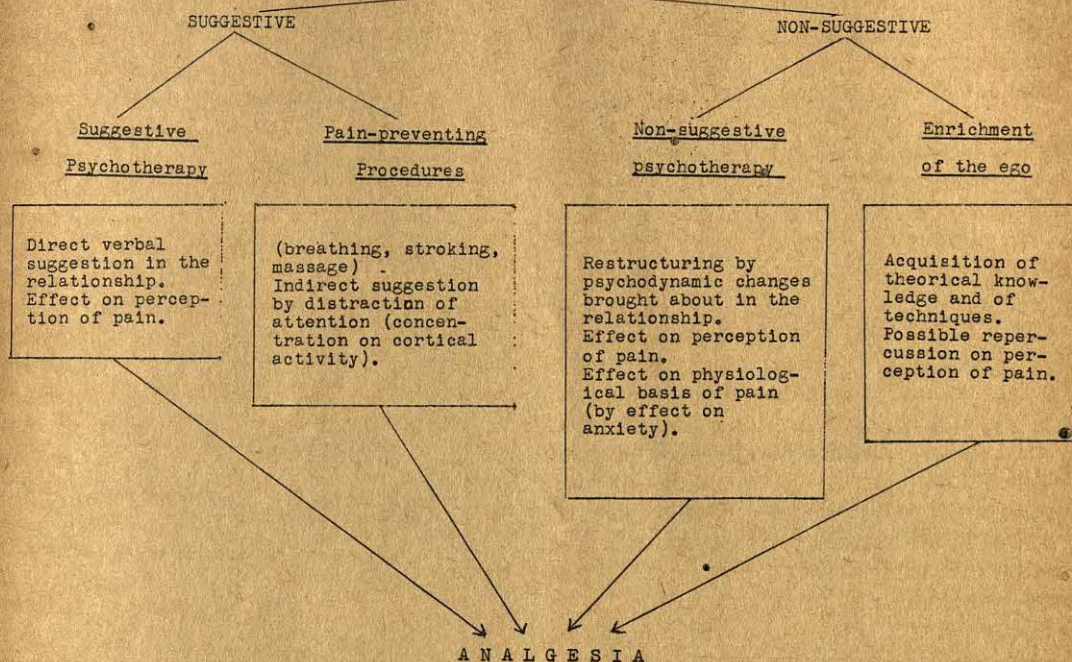
Now, we may give a schematic interpretation of the mechanisms of analgesia. In the HSM, the property of reducing pain consists of a force which is *psychotherapeutic, suggestive, verbal* (or *interpersonal*), *massive* and *direct*, at the level of central perception of pain. This force may be applied during the confinement, or during preparation with deferred effect.

In the PPM as well, part of the power to prevent pain comes in a form which is *psychotherapeutic, of the nature of suggestion, verbal* (or *interpersonal*) and *direct* but *not massive*. It is diluted in a network of relationships. Its power may be exerted during the confinement, or during preparation with deferred effect.

The PPM in addition includes analgesia achieved by *non-suggestive, verbal* (*interpersonal*), *indirect* means. The suppression of fear by instruction, by reassuring surroundings, by the replacement of fantasy by reality, by the creation of a set of cordial relationships, results in a "normalising" of the confinement, and the disappearance of somatic causes of pain (spasms). Note that this involves a typically psychosomatic mode of action. It is perhaps at this level that the adjective "prophylactic" is most justifiable. But again, in the same method, the power of preventing pain is also presented in a *non-verbal* (*non-interpersonal*) way—breathing exercises, active relaxation and other "pain-preventing procedures" (procedures amounting to distraction of attention, also known as "indirect suggestion"). Finally, as we have seen, another kind of non-interpersonal analgesia might be linked with the enrichment of the ego by instruction or training. This, however, is only a hypothesis.

It must be added that certain constituent parts of the method may work in several

FIGURE 1
METHODS OF ANALGESIA



ways. Thus relaxation may serve as groundwork for interpersonal experience. It may sometimes represent a pain-preventing procedure by the concentration of attention on the bodily sensations which it produces (a mechanism similar to that which is involved

in breathing "procedures"). Finally, it may act at the muscular level. The use of one or several of these modes of action will depend, as we have said elsewhere(6), on the personality of the woman and her relations with the person who is preparing her

FIGURE 2
METHODS OF ANALGESIA

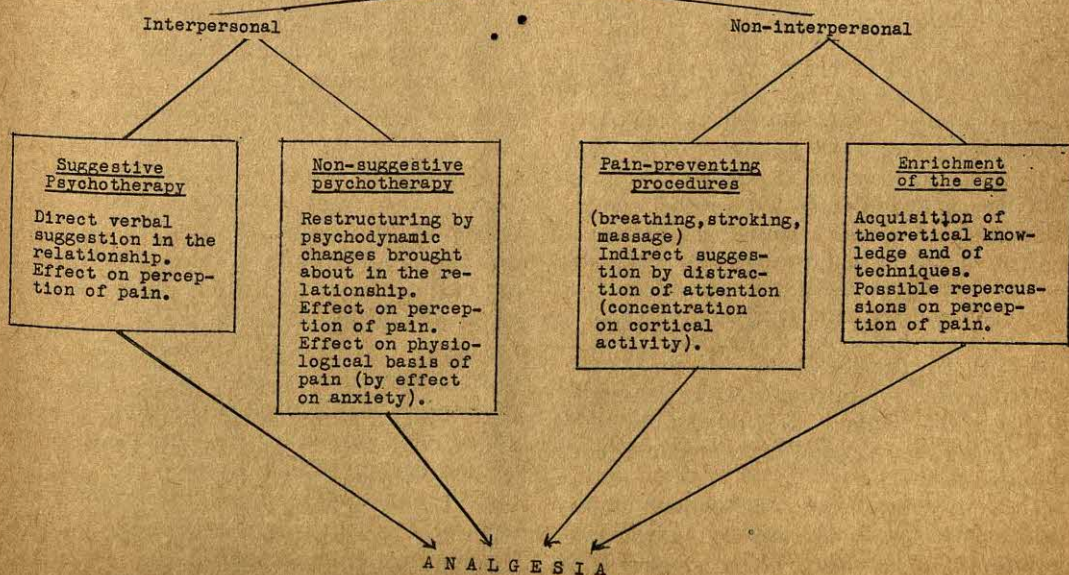
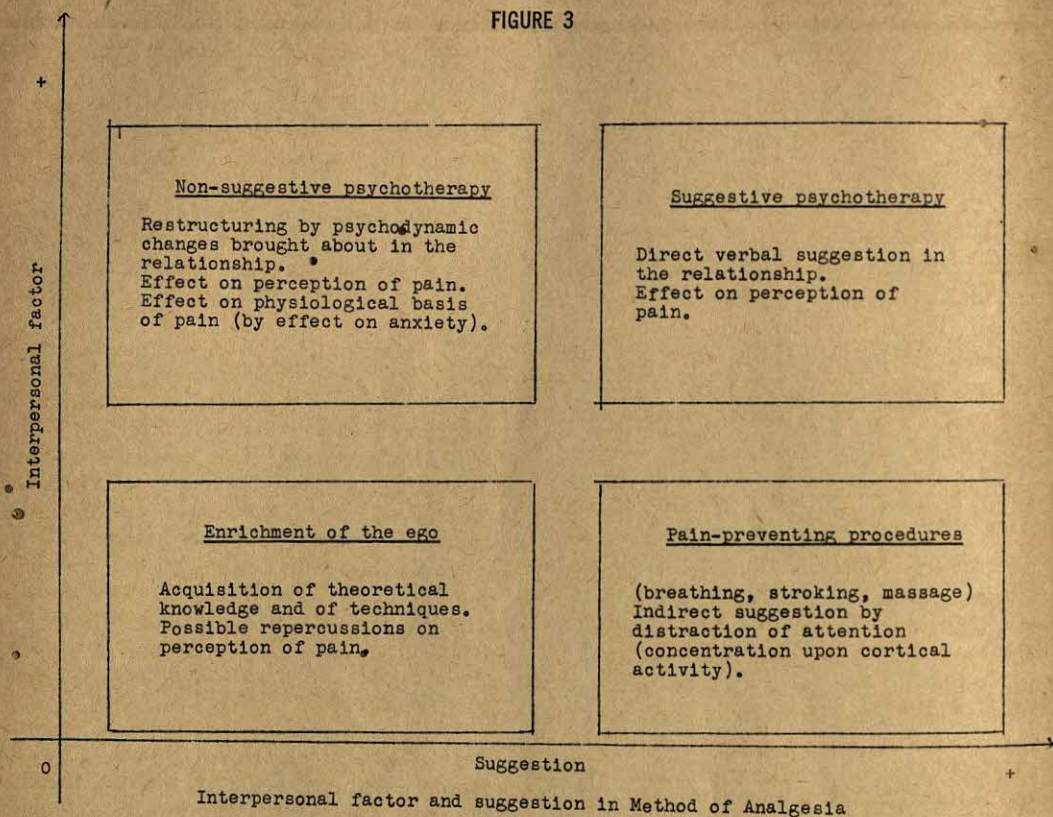


FIGURE 3



and the group of which she is a member.

The 3 diagrams illustrate the operation of the different factors in the various methods of analgesia. In the first diagram, the methods of analgesia are classified according to the importance of suggestion in their modes of action. In the second, the same methods are classified according to the importance of the interpersonal factor in their modes of action.

These distinctions are introduced to clarify theorising and should be viewed in a purely operational way. It is not implied that the opposition between "suggestive" and "non-suggestive" on the one hand, and between "interpersonal" and "non-interpersonal" on the other hand, should be regarded as absolute. It is clear that there is an interpersonal variable in the "pain-preventing procedures" and in the "enrichment of the ego"; but here, it is not the basic factor in effecting analgesia, as it is in the "psychotherapeutic" methods.

The third diagram combines the other two. It places the methods of analgesia in terms of both the interpersonal factor and the factor of suggestion.

These two factors are represented by two orthogonal axes. Each method of analgesia depends to a greater extent on each of the

two factors, the further it lies from the origin (towards the top of the diagram for the interpersonal factor, towards the right for the factor of suggestion). Thus, "suggestive" psychotherapy is of all the methods of analgesia the one which depends most upon *both* the interpersonal factor and the factor of suggestion.

SUMMARY AND CONCLUSIONS

The most widely used drugless method of obstetrical analgesia is the psychoprophylactic method (PPM) described by Velvovskii. It is an offshoot of the hypnosuggestive method (HSM). Hypnosis has been abandoned. The new method is based upon instruction in anatomy and physiology, and training in techniques of relaxation, breathing and active participation during labour, all in a good emotional climate.

The two methods have been contrasted thus. The HSM is said to be based on *suggestion*, the PPM on *persuasion*, with the appropriate physiological corollaries, namely cortical *inhibition* in the case of the former, hence *therapy*, and *excitation* in the case of the latter, hence *prophylaxis*. But this contrast is challenged in the absence of

physiological proof. The two methods do differ, but in another way. In HSM, the pain-preventing effect consists principally in *verbal, massive, direct* action. In the PPM, too, part of the pain-preventing effect appears as *verbal* and *direct* but *not massive*. It is diluted in a network of relationships. But it also appears in a *verbal* and *indirect* form; the suppression of fear has beneficial effects on contractions of the uterus. There is finally the *non-verbal form* represented by breathing exercises, active relaxation and other pain-preventing "procedures." The psychotherapeutic element remains of importance in the PPM. The HSM requires a particular skill from those who apply it, and what is more, hypnosis, surrounded as it is by a mystical halo, meets with much conscious and unconscious resistance, both among the public and in the medical world. In eliminating hypnosis, Velvovski has shown his sense of realities; no doubt he has been unable to interpret in a wholly satisfactory way the physiological and psychological realities on which the method rests, but we should not find this surprising when we realize the difficulty in this field. The field offers a vast and exciting prospect of research to all concerned to understand the nature of pain and to find the means of relieving it. In taking the discussion into the realm of science, Velvovski has already himself achieved considerable progress. Moreover, his rationalization has reassured both public and doctors and thus permitted the application of the method on a large scale.

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STUDIES ON THE PSYCHOPATHOLOGY OF SLEEP AND DREAMS ¹

CHARLES FISHER, M.D., AND WILLIAM C. DEMENT, M.D.²

In these days, when important new discoveries are being made on molecular, cellular, biochemical and neurophysiological levels, there has arisen a tendency to de-emphasize the psychological. Kety(1) has suggested that a total explanation of behavior, strictly in terms of physics and chemistry, is not likely, and that it is extremely pretentious to believe that the tools of the biological disciplines alone can unravel the mysteries of behavior. He makes the profound comment, "There will, no doubt, some day be a biochemistry or a biophysics of memory—but not of memories." He remarks that psychoanalysis, whatever its defects, may represent the closest approximation "to the rich and almost inexhaustible fund of information which reposes in the individual human brain, and, to a significant extent, determines individual behavior." He concludes with a plea for the study of the nervous system and behavior in a variety of disciplines and techniques, each with its own virtues and its own peculiar limitations.

The purpose of this paper will be to suggest that psychoanalysis, as the most comprehensive of current psychological theories, has great value for investigations on the behavioral level(2). It will not be concerned with research using the psychoanalytic method or specifically designed to validate psychoanalytic propositions or theory, but with research using the experimental method designed in the light of psychoanalytic theory, or the data of which are understood and interpreted through the theory. This type of research is not primarily concerned with validation but with new discovery. To the extent, however, that a psychoanalytic consideration of experimental work leads to the discovery of valid new relationships

among phenomena, an indirect but definite contribution to the validation of psychoanalytic theory may be made. At the same time, new discoveries leading to additional testable hypotheses have a feed-back function on the theory itself, and modify it. One of the purposes of this type of research is to establish a theoretical model of personality functioning encompassing the interrelationships among the simultaneous processes which take place on different levels of integration, the molecular, cellular, biochemical, neurophysiological, as well as unconscious and conscious psychological levels.

We will attempt to illustrate the above point of view through a discussion of recent experimental work on the psychophysiology of sleep and dreams. At the present time, important multidisciplinary work on the part of physiologists, psychologists, psychiatrists and psychoanalysts is being done in this area. This constitutes a genuine breakthrough making possible the investigation of heretofore inaccessible problems of sleep, dreaming, and other forms of nocturnal psychic activity.

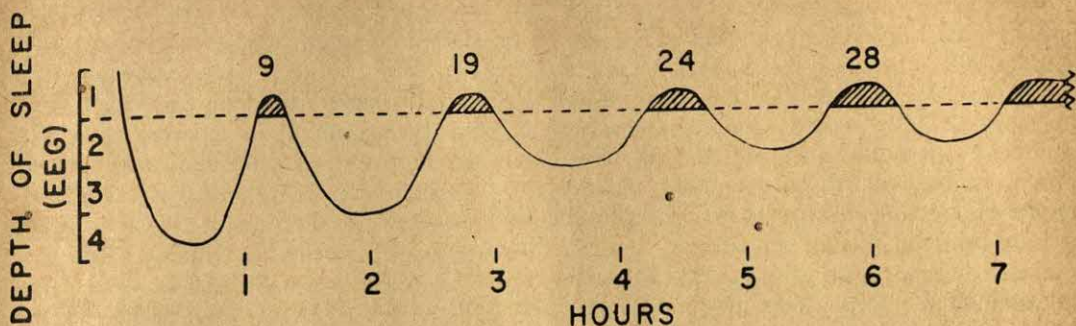
It has been found by Dement, Kleitman, and their co-workers(3-9) that dreaming is associated with bursts of rapid vertical and horizontal eye movements (REMs), and that these occur only during periods of Stage 1 EEG, characterized by a low voltage, relatively fast pattern and an absolute lack of sleep spindles. When the EEG and eye movements are recorded continuously throughout an entire night of sleep, a more or less cyclic pattern of change is observed, as shown in Figure 1. In an average 7- or 8-hour night, there are usually 5 such dream periods, as indicated by the shaded areas in the figure, the numbers above the shaded areas indicating the average length of the dream periods in minutes. Each dream period is preceded and followed by intervals (Stages 2, 3 and 4), during which no REMs are recorded, and the EEG patterns are distinctly different, containing sleep

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FIGURE 1



spindles and slow delta waves. The most striking finding has been that dreaming occurs in a cyclic fashion and the rhythmic pattern seems to be relatively fixed and stable. This cyclic variation has been recorded every night in hundreds of subjects who have been observed in our laboratory and elsewhere. The mean percentage dream time of individuals within a particular age group appears to be fairly constant. In the age range from 20 to 30 years, it is almost always within a few percentage points of 20% of the total sleep time, *i.e.*, about 1½ hours of dreaming during a 7- or 8-hour period of sleep.

A considerable body of evidence(10) indicates that dreaming is a continuous sensory experience, especially in the visual modality, occurring throughout the entire period of Stage 1 EEG, even though the actual REMs are discontinuous and the amount of time taken up by them constitutes less than 25% Stage 1. Specific patterns of eye movement have been shown by Roffwarg, *et al.*,(11) to be correlated with the movement of objects and events in the dream; *i.e.*, the dreamer moves his eyes while looking at and participating in the hallucinatory events of the dream, just as a waking person would while watching similar events in real life. The intervals of ocular quiescence between bursts of movement are equally important in this relationship, since they are associated with portions of the dream in which the dreamer is staring fixedly at distant activity or a nearby stationary object. The dreamer appears to be completely involved in his experience and to participate in the dream with both emotional and physiological responses. When he is under emotional stress

or physically active in the manifest dream, his pulse may quicken, his respirations may become irregular and he gazes sharply about, his eye movements closely coordinated to the hallucinated visual imagery. The dream has a dimension in time and does not occur instantaneously. A quasi-waking level of physiological activity is attained which does not occur in any of the other sleep stages. We have concluded, therefore, that the duration of the Stage 1 EEG periods can legitimately be taken as a measure of the length of the dream periods. This conclusion is important because we have mostly concerned ourselves not with individual dreams but with the establishment of *nightly total dream time*, *i.e.*, with the dreaming process as a whole.

There are two other points which should be discussed briefly. First is the problem of psychic activity during non-dreaming stages of sleep. Recent work(12) suggests that psychic activity goes on all during the night and that such activity during non-dreaming periods (Stages 2, 3 and 4) differs from that occurring during Stage 1 dreaming sleep in that it consists of much more secondary process thought, more related to recent memory and current daily preoccupations. Other studies(10, 13, 14) indicate that rather complex, discriminatory forms of cognitive activity can occur during Stages 2, 3 and 4, but not during dreaming sleep. The second problem is concerned with the "depth" of various stages of sleep. Recent evidence(10) indicates that Stage 1 dreaming sleep may not represent "light sleep" as previously supposed, but from many points of view, including that of arousal thresholds, may be as "deep" as Stages 3 and 4. As a matter of fact, it now appears

that dreaming sleep cannot be placed on the ordinary sleep-wakefulness continuum, that it represents a qualitatively different form of sleep from a psychophysiological point of view, with its own characteristics. Furthermore, it has recently been shown by Jouv \acute{e} t(15), as will be discussed later, that dreaming sleep is a different form of sleep, triggered off and regulated by a special neurophysiological mechanism.

We have been interested in investigating the nature, meaning and function of the dream-sleep cycle which appears to be relatively fixed and stable, and universally present, and in throwing light on whether dreaming is a necessary psychobiological function. We approached this problem in two different ways: One has been to experimentally manipulate the cycle in the direction of suppressing it, and to investigate the behavioral and other consequences of such suppression(16-18). We wondered whether individuals deprived of the large amount of dreaming found to be universally present in normal subjects, would develop mental disturbances. We have been able to suppress dreaming by forced awakenings, by total sleep deprivation and certain drugs. A second approach has been to study the natural and spontaneous fluctuations in the cycle in psychoses and other psychopathological states(19, 20).

Dement(16) developed the simple but somewhat drastic method of forced awakenings. Subjects were awakened immediately, within a minute or so, after the onset of dreaming, as indicated by the appearance of Stage 1 EEG and REMs, and were kept awake for several minutes before they were allowed to go back to sleep. With this method, continued over a period of consecutive nights, it was possible to reduce the normal amount of dreaming by 65-75%. The forced awakening method has now been applied to 20 adult subjects, mostly in the age range from 20 to 30, for periods ranging from 1 to 16 nights. It was found that a progressively increasing number of awakenings was necessary to suppress dreaming. With each succeeding night, the subjects increasingly attempted to dream, and, in effect, would get in a minute or two of dreaming each time before they were awakened. In a typical experiment, the number of awaken-

ings might be 7 on the first night, gradually increasing to as many as 30 by the fifth night. Following the period of dream deprivation, the subjects were allowed to sleep undisturbed for a number of nights. During these so-called "recovery nights," marked increases in the amount of dreaming, as compared to the subjects' normal baseline levels, were recorded. For the group as a whole, the increase on the first recovery night averaged 50% and in some instances the rise was as high as 80%. Thus, the dream suppression procedure appeared to bring about a dream deficit—an increase in the pressure or need to dream, manifested by increasing and compulsory attempts to dream during the nights of forced awakenings, and a large compensatory increase in total dream time during the recovery nights.

Extensive control experiments were carried out in which an equivalent number of awakenings were done during the non-dreaming phases of sleep. The dream deprivation effect did not develop, indicating quite conclusively that it is not the awakenings themselves nor the concomitant moderate sleep loss that is responsible for the effect.³ Furthermore, we have found that total sleep deprivation brings about dream suppression, the building up of a dream deficit and compensatory increases in dreaming during subsequent recovery periods. We have also been able to confirm the discovery made by Maron and Rechtschaffen(20a), that the administration of a combination of dexedrine and nembutal produces the same effects. With these two latter types of procedures, the complicating factor of the forced awakenings is eliminated and is clearly ruled out as the cause of the dream deprivation effect. The dream deprivation experiments strongly suggest

³ Subsequent re-analysis of the results of the control experiments has shown that a moderate but much less drastic dream suppression effect takes place followed by moderate compensatory increases in dreaming during subsequent recovery periods. This is associated not with increasing attempts to dream but with an actual reduction of the number of dreaming periods due to the repeated intrusions into the non-dreaming stages of sleep. The repeated awakenings bring about a "spreading effect," that is, mechanically lengthen the interval between the REM periods and reduce the number of the latter.

that dreaming is a necessary psychobiological function and that more or less complete suppression of it might have serious psychic consequences.

At this point, we would like to examine the phenomena thus far described in terms of the psychoanalytic theory of dreaming and the theory of instinctual drives. The psychoanalytic theory of instinctual drives was developed(2) in order to explain certain pathological phenomena, irrational ideas and behavior which are not necessarily pathological, the origins of behaviors and thoughts that man experiences as beyond his control, that are *peremptory*, in contrast to those which he experiences as subject to his will; in short, to account for the origins of behavior and ideas which emerge "spontaneously," and are not obvious responses to an external stimulus or a somatic condition. Dreaming is the type of psychic phenomenon *par excellence* showing these characteristics.

Freud's theory of dreaming has a dual aspect: He believed that the principal function of dreaming was to provide a *safety valve* for the partial discharge of instinctual drives during sleep, especially those repressed, infantile ones that he thought of as indestructible, and, at the same time, by virtue of the distorting and disguising function of the dream work, to preserve sleep. The theory assumes that during sleep there is a relative decathexis of the mental apparatus with a consequent quiescence of its functions. However, certain energies of the mind remain active, e.g., according to the older topographic theory, the repressed wishes in the System Ucs., and, according to the later structural theory, instinctual drives in the id. In addition, preconscious mental processes and their energies in the ego, referred to as day residues, also remain active. These active id and ego energies strive for discharge, and the dream work consists of a complicated interplay among id, ego and superego, the final result of which is the series of hallucinatory sensory images which we call the manifest dream.

Recent work has made it possible to link dreaming as a behavioral event with the underlying physiological and neurophysiological events that accompany it. We would

suggest that the initiation and activation of the Stage 1 REM phase of sleep is concomitant with instinctual drive discharge processes in the id and those energy shifts between ego and id leading to the hallucinatory dream. The spontaneous, peremptory and obligatory nature of dreaming has been demonstrated in the most vivid fashion in the dream deprivation experiments, and it may be suggested that these characteristics are connected with the safety valve, instinctual drive discharge function of dreaming. Similarly, from the somatic side, the dream-sleep cycle is built into the organism from birth and appears to be associated with a spontaneous, cyclic, peremptory activation of the Stage 1 REM phase. We are dealing with the same phenomenon from two points of view, the physiological and the psychological, and can observe common characteristics.

If we accept the above assumptions, suppression of the Stage 1-REM phase, from the somatic side, and of dreaming, from the psychological side, would lead one to predict the occurrence of an inhibition of instinctual drive discharge associated with a probable intensification of pressure toward discharge. That increased, compensatory dreaming occurs following the development of a dream deficit is evidence supporting this assumption. According to psychoanalytic theory, instinctual drive cathexis prevented from consummatory action may find substitute forms of discharge in fantasy, symptoms, etc. This is the phenomenon of displacement, one of the chief characteristics of the primary process. Further evidence for the occurrence of an inhibitory process is to be found in the behavioral observations made on our dream deprived subjects. We assumed that instinctual drives and their derivatives prevented from discharge in nocturnal dreaming would make themselves manifest in the daytime in various kinds of disturbed behavior. During dream deprivation, but not during the period of control awakenings, our subjects showed disturbances in a number of ego functions: they developed greater or lesser degrees of tension and anxiety, difficulty in concentration, irritability, motor incoordination, disturbance in time sense and in memory. One subject developed a

severe anxiety attack and another a period of depersonalization. Two subjects showed evidence of intrusion of primary process thought into waking consciousness when tested by Holt's modification of the Rorschach (21). Three subjects manifested a latent hallucinatory tendency, *e.g.*, they developed formed hallucinations when exposed to flickering light at the height of dream deprivation, though they did not do so during the control period. Five subjects developed a peculiar, intense feeling of hunger and emptiness and increased eating. Our tentative explanation of this is that certain subjects, especially those with pre-existing oral conflicts, show a regressive displacement to the hunger originally associated with repressed libidinal oral drive tensions, when these are prevented from taking their normal path of discharge in nocturnal dreaming.

We have suggested that dream deprivation, carried out intensively enough and for a prolonged period of time, might bring about a very large dream deficit, a great intensification of the pressure of instinctual drives toward discharge, eventual eruption of the dream cycle into the waking state and the development of hallucinations, delusions and other psychotic symptoms. Although we have not yet produced psychotic symptoms but only the above described tendencies in that direction by forced awakenings psychotic outbreaks have been shown to occur following 100 hours or more of total sleep deprivation (22). We have shown that with prolonged sleep deprivation there is an accompanying dream deprivation and the occurrence of compensatory dreaming during subsequent recovery periods. In view of this, it is likely that dream deprivation plays a role in the development of psychotic symptoms during prolonged total sleep deprivation. Total sleep loss probably has a greater disruptive effect on ego functions, defenses and controls than does dream deprivation where the autonomy of the ego is much better preserved. Morris and his co-workers (23) have recently investigated the course of development of hallucinations in sleep deprived subjects. Their work also suggests that with increasing sleep loss the dream cycle finally erupts into the waking ego. We believe, however, that prolonged

dream deprivation alone might produce this effect.

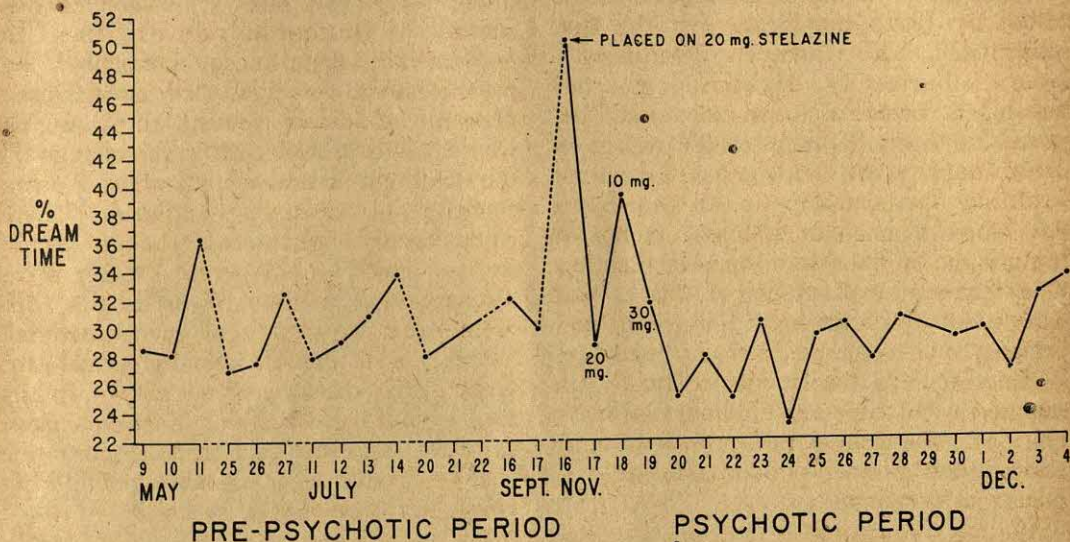
If it is true, as Freud proposed, that the dream serves as a safety valve for the discharge of instinctual drives, then in any mental disturbance, postulated by psychoanalytic theory to show an increased pressure of drives toward discharge, it would be expected that some change in the dreaming process would occur. We can conceive of several possibilities. There could occur a qualitative change in the dreams which would permit greater drive discharge, *e.g.*, nightmares or dreams with more overt expression of drive material. Whether such dreams actually provide for greater drive discharge is not known. In any case, even if there were qualitative changes, as drive pressure increased, quantitative changes would occur, namely, *a simple increase in the amount of dreaming.*

For example, it is generally assumed that in an acute schizophrenic psychosis, there is increased conflict with an intensification of the pressure of drives toward discharge in the presence of an ego defect or defects, *e.g.*, weakened defenses, a failure of repression due, in Hartmann's formulation, to a deficiency in the neutralization of aggressive energy so that insufficient counter-cathexis is provided. Similarly, in a pre-psychotic or borderline character, one might postulate the occurrence of increased drive pressure and weakened ego defenses and controls. Is it possible that in such individuals total dream time is increased? We have now made observations bearing on this question on 5 borderline patients, 1 of whom became psychotic (19, 20).

A 25-year-old white male was diagnosed as a pre-psychotic character, potentially a paranoid schizophrenic. He showed disturbances in a number of areas of ego functioning especially in perception and alterations of consciousness in the form of prolonged sleeping spells. He was taken into treatment with the idea of following fluctuations in his dream-sleep cycle during the course of therapy. Over a 5-month period, on 4 occasions, he slept in the laboratory for 3 or 4 nights at a time while his EEG and REMS were recorded. His total dream time was found to be markedly elevated, varying between 27% and 36%, and averaging about 30%, in contrast to the 20% average for

FIGURE 2

TOTAL DREAM TIME PERCENT DURING COURSE OF PSYCHOSIS



normal individuals in his age range (Figure 2). At the end of 5 months, he rather precipitously developed an acute paranoid psychosis. He first became delusional and then began to hallucinate in both the visual and auditory spheres. He was in a severe panic, would run through the streets and over roof tops fleeing from imaginary pursuers. Within several days after the onset of hallucinations, he was placed on massive doses of Stelazine and we were able to obtain EEG and REM recordings over a period of 18 nights. On the first night in the laboratory he showed a total dream time of 50.1%, by far the largest we have ever seen. By the second day, dream time percent fell to its pre-psychotic level, but when the dose of Stelazine was decreased, it again rose to 39.4%. There was also a marked disruption of the cycle, the first dream period beginning at the very onset of sleep instead of the usual 1 hour or 1½ hours after onset, and lasting for 2½ hours.

We have never seen this kind of early dream onset, except in patients with narcolepsy, an illness which was clearly ruled out in our patient. On the second night, there was a brief period of dreaming at sleep onset lasting 23 minutes, but on subsequent nights this phenomenon disappeared. The initial 2½-hour period of dreaming also differed from normal dream periods in that there was a considerable amount of alpha activity alternating with stretches of Stage 1 EEG. During the alpha periods, the eye movements, for the most part, disappeared and

then re-emerged when the low voltage Stage 1 activity supervened. The patient appeared to be asleep, from a behavioral point of view, and when aroused shortly after REMs appeared, he reported a dream. In view of the abnormal amount of alpha present, however, we cannot consider this sleep onset dreaming as entirely equivalent to a normal dream period, but rather as intermediate between dreaming and waking, or perhaps between dreaming and waking hallucination. On the third night, the dream-sleep cycle appeared quite normal, but the dream time remained at a very high level, 39.4%, even though the patient had had a considerable amount of Stelazine. He was kept on 20 to 30 mgm. of this drug for 6 months. His hallucinations disappeared within several days after the initial administration of the drug, delusional activity gradually diminished and he became more amenable to psychotherapy. After the drug was discontinued, his dream time percent remained at its pre-psychotic level of 28-30% and has persisted at this level for a period of 1½ years. At the present, he is free of psychotic symptoms but remains vulnerable.

We suggest that this patient showed a high percentage dream time in his pre-psychotic period because of intensified drive pressure in the presence of a weak ego organization. As drive pressure mounted and defenses became weaker, his dream time percent rose to an even higher level, and at

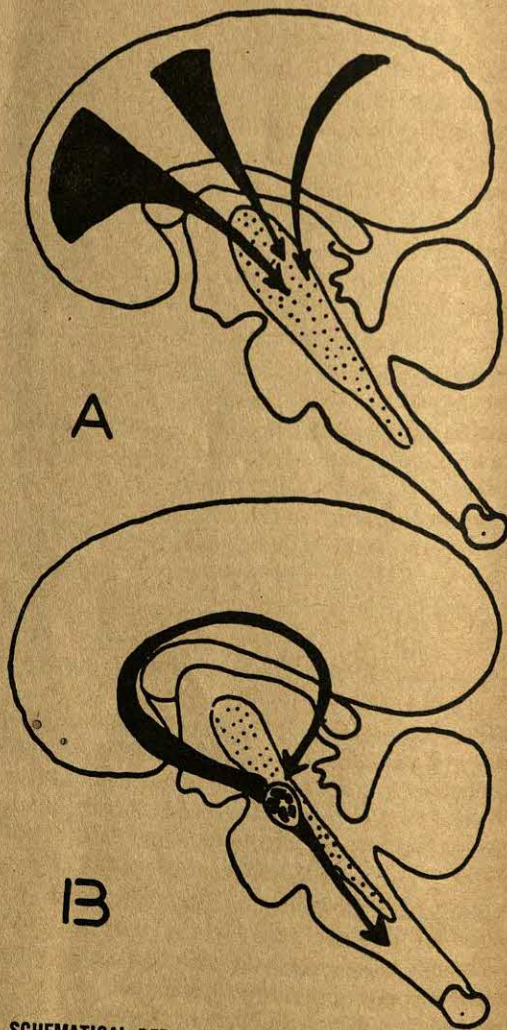
the point where he became acutely psychotic, delusional and hallucinating, it had attained a level of 50.1%. It seems likely that the quick remission of his acute psychotic symptoms was due to the action of Stelazine, either its effect on reducing instinctual drive pressure or some effect on ego defenses and controls, or both. As an accompaniment of these hypothesized effects, total dream time rather quickly returned to its pre-psychotic level. We do not wish to imply that there is a causal connection between increased dream time and the type of paranoid psychosis that our patient had, but only that the psychotic symptoms were temporally associated with increased dream time. That the findings of high total dream time in this patient during his pre-psychotic and psychotic phases were not fortuitous is indicated by the following additional data. We investigated the dream-sleep cycle in 5 borderline, potentially schizophrenic patients, including the one presented above. The mean percentage dream time for this group, all in the age range between 22 and 26, was 26.5% as compared to 19.8% for a group of 11 normal control subjects in the same age group. The difference between the mean values is significant at the .001 level.

We would like to propose that the total dream time level in any given patient on any given night is *the outcome of the balance between the pressure of instinctual drives towards discharge and the adequacy of the defensive and controlling functions of the ego*. In the paranoid patient described, we assume that drive pressure was markedly increased in the presence of pathologically weakened defenses, resulting in a breakthrough of the dream cycle into the waking ego with the development of delusions and hallucinations.

Finally, we would like to call attention to some recent neurophysiological work. As pointed out earlier Stage 1 REM phase of dreaming sleep has characteristics making it difficult to place on a continuum with Stages 2, 3 and 4. Both from a psychological and physiological point of view, it seems to be a *different* form of sleep. This idea has recently received confirmation through a brilliant and important neurophysiological investigation by Juvet and his co-workers

(15, 25). A sleep cycle bearing striking analogies to that of the human has been found in such lower forms as the cat, dog, and monkey, and it now seems probable that these forms dream. On the basis of work on the cat and on humans with brain lesions, Juvet concluded that sleep is controlled by a dual mechanism and that two different neurophysiological systems are involved (Figure 3). The first system appears

FIGURE 3



SCHEMATICAL REPRESENTATION OF THE TWO PHASES OF SLEEP

- A) Telencephalic sleep, descending inhibitory activity from the cortex upon the ascending reticular system.
- B) Rhombencephalic sleep (R.P.S.). The triggering inhibitory rhombencephalic center is connected with ascending fibers to the limbic system (Limbic Midbrain circuit) and with descending fibers to the pontobulbar inhibitory reticular formation. Dreaming occurs during this phase.

By permission of the author(29).

to intervene during Stage 2, 3 and 4 spindle and slow wave sleep and requires the presence of the neocortex. The neocortex is responsible for the slow activity which is brought about by a cortico-fugal inhibitory action on the reticular activating system. Jouvett designates this phase as telencephalic or "neo-sleep." He believes that it may represent a stage which is acquired during telencephalization. On the other hand, the second type of sleep is designated by Jouvett as rhombencephalic or "archisleep." This corresponds to the Stage 1 REM phase in the human. It is an active phenomenon and is triggered off by a mechanism localized in the caudal pontile nucleus of the pontile reticular formation. If the caudal pontile nucleus is destroyed, either in the cat or human, the rhombencephalic phase of sleep disappears. Jouvett points out that the pontile reticular formation is probably connected with the limbic system through the so-called limbic mid-brain circuit, since lesions at various levels along this pathway interfere with certain aspects of "archisleep." He proposes that dreaming occurs when the pontile limbic system, shown in Figure 3B, triggers the rhombencephalic phase of sleep. Although we do not wish to indulge in facile neurologizing, Jouvett's findings are of great interest because the activation of the pontile limbic system may be thought of as part of the neurophysiological substrate of what, in psychoanalytic terms, we designate as drive discharge. It may be of some significance that the center in the pons which appears to activate the rhombencephalic phase of sleep and dreaming is also connected with the limbic system, which includes the hypothalamus, *i.e.*, with those phylogenetically old parts of the brain alleged to be associated with emotions and drives. These are the very parts of the brain which one might expect on *a priori* grounds to be linked with the instinctual drives conceived in psychoanalytic theory. In this connection, it is of interest that Lilly(24) has suggested that the reward and punishment centers, discovered by Olds(25), through self-stimulation experiments in the limbic and hypothalamic areas, may be correlated with the aggressive and sexual drives in the psycho-

analytic sense. Margules and Olds(27), and Hoebel and Teitelbaum(28) have shown that the reward and feeding systems in the hypothalamus are identical; *i.e.*, the points in the hypothalamus which are related to self-stimulation are also connected with drive activity.

In conclusion, it has been our purpose to point out the value of psychoanalytic theory in organizing and interpreting experimental data and in providing testable hypotheses for further experiments. In addition, we have attempted to correlate the psychological with the physiological and neurophysiological levels of integration by interpreting recent findings on the psychophysiology of sleep and dreams in the light of psychoanalytic drive and dream theory. A physiological and neurophysiological dimension has been added to our understanding of dreaming, and soon we may also have a biochemistry of dreaming, since Jouvett believes that his pontile center is triggered off by a neurohumoral mechanism. But, to paraphrase Kety, although there may someday be a biochemistry of dreaming, there will never be a biochemistry of dreams, the understanding of which will always require psychological interpretation.

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CONCURRENT TREATMENT GROUPS OF MOTHERS AND CHILDREN

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A child's behaviour is largely reactive to the attitude of his parents. Kanner(5) suggests that future textbooks of child psychiatry might be organized on the basis of parental attitudes and their effects on children. Of the parents the mother has often the greater influence as it is through his relationship with her that a child learns his basic patterns of behaviour. In Slavson's(8) words "the chief, and often the sole, source of difficulties in the child is his mother, who, for constitutional or psychological reasons is unable to function properly as a mother and a wife." He considers that environmental factors are an integral part of the treatment of the prepubertal child, and the mother's attitude the most important factor in that environment. Kahn(4), when discussing the therapeutic process with children, has said: "Treatment of the child alone, except when adolescence is reached, is usually inadequate and often unjustifiable." Treatment aimed at the modification of the maternal attitude may be through guidance, designed to enlarge the understanding of the child's needs, or by psychotherapy, designed to deal with the unconscious conflicts of the mother in her relationship with the child. Based on Slavson's hypothesis, this study aims at testing whether the relief of behaviour disorders in children can be obtained by the modification of maternal attitudes. We used group treatment to do this.

Group treatment for parents started in 1937 at the Brooklyn Child Guidance Clinic and flourished under Slavson. There are many reports of such child-centred groups, mostly of mothers (2, 3, 6). Amster(1) found many advantages in group work with mothers: "The individual becomes the concern of the group, emotional release and human relationships are stimulated quickly, tolerance of specific behaviour as such is achieved, and the children are compared

with real, not ideal, standards. The individual learns and adapts to the new standards." Child-centred group treatment of parents is often more practical than individual treatment. To quote Slavson(9) again: "Our experience has convinced us that group guidance of parents, with lesser interpersonal disturbances, is in every respect more effective and more efficient than individual guidance." He advocates group treatment in most cases, except when the mother is suffering from severe psychiatric disorder or deep-seated conflicts, or when the family are well-known in the community and the mother therefore finds communication difficult.

Method. The setting for the study was the Croydon Child Guidance Clinic. In sources of referral, staffing and facilities it is essentially similar to the average clinic in this country. Individual treatment of the child by the psychiatrist, with casework with the mother by the psychiatric social worker, is the usual practice. We chose children suffering from what may be classified, according to Slavson(8), as primary or reactive behaviour disorders. He describes this as deviant behaviour, not the result of or secondary to constitutional or psychological defect or illness, but as a direct outcome of experience. The population we studied were children of this kind and their mothers. Selection was made after a diagnostic interview of both mother and child, intellectual assessment and a school report being available. The children were all of school age, but prepubertal, and living at home with their parents. They had symptoms of at least a year's duration. The only other condition for selection was that the mothers agreed to come for group discussion and the children to play together. Twenty-two children were selected, 9 girls and 13 boys, aged between 7 and 13 years and with I.Q. ranges between 92 and 135 on the W.I.S.C., the mean being 110. One of us handled the mothers' groups and the other the children's.

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The children's groups each consisted of 4 or 5 children of both sexes, and of similar age. The psychiatrist introduced the children at the first meeting as regards names, reason for their being brought to the Clinic, other members of the family, and the children's likes and dislikes. After this the therapist did not take part in the group activities unless invited to do so. He refrained from making any interpretations of the children's behaviour, and none of them was seen individually. Group games were encouraged, but not insisted on. Younger siblings were included in the play to relieve the adult group of their presence. Mostly they played games with balls or hide-and-seek in the clinic garden, occasionally they chose to paint or talk to each other.

The mothers' groups were held by the other psychiatrist at the same time as the children's. There were 5 separate groups, with sessions lasting an hour and held weekly except when interrupted for holidays. At each first meeting the 4 or 5 mothers were introduced by the psychiatrist and then invited to describe their children's problems. Commiseration and advice were exchanged, habitual attitudes were compared and attempts made to define normal behaviour at the relevant age. Although the aim was mainly at child-centred groups, when problems needing dynamic interpretation arose these were not withheld. For instance, comparisons were often made by the mothers with their own experience of love and discipline as children, and then the relevance of present attitudes was discussed. The groups were also concerned with the mothers' own current problems, such as their emergence from the social isolation due to the prolonged dependence of their young children.

Improvement in the children's behaviour was reported early, and termination of treatment was discussed as soon as improvement was substantial. Where there were symptoms at school, progress was then checked by a school report. The transfer of one of the authors from the Clinic, for administrative reasons, prevented extension of this work with more children.

Controls. We compared our results with those of the most closely matched cases taken on for treatment in the previous year.

These children were treated individually by the psychiatrist, and the mothers were in casework with the psychiatric social worker, though in 3 cases some of the children's sessions were with the psychologist and 3 mothers did not have regular casework; but they may be said to have all had traditional child guidance treatment. They were all cases of behaviour disorder, living at home with their parents, and were the best matches for age, sex, level of intelligence and symptoms; when there was sufficient choice family groups were taken into account in matching.

Results. Of the 22 children in the trial group, 15 were discharged symptom-free, 3 were improved and 4 unchanged. This was achieved in 4 to 11 sessions spread over 2 to 5 months, the average being 6 to 7 sessions in 3 months.

Of the control group, 1 became symptom-free while on the treatment waiting-list, 3 were discharged symptom-free and 2 improved after treatment. These last 5 attended an average of 19 sessions over 10 months. In 7 cases treatment had to be discontinued because of refusal to attend the clinic further before any substantial improvement was reported. In 9 cases symptoms were unchanged after a year or more in treatment, these having an average of 26 treatment sessions.

Follow-up. The mothers of the experimental group were interviewed a year later and 14 of the 18 cases that had been discharged symptom-free or improved had remained free of complaints without any further treatment.

DISCUSSION

The results of the study are encouraging. Treatment of the mother, rather than of the child, in these reactive disorders, appears to be better in results and less time-consuming. The 4 failures in the study were as follows: one case was excluded from the group because a severely immature personality disorder became apparent; in one the mother reported after 2 sessions that treatment was no longer necessary as there was no longer a problem (this "flight into normality" not being maintained); the other 2 failures only attended half the sessions, as one mother was admitted to hos-

pital and the other was from a locally well-known family of the type Slavson describes as being unsuitable for this treatment. Attendance on the whole, however, compared favourably with that for individual treatment, and there was no difficulty in persuading the mothers to join initially. Our aim was merely at symptomatic relief, but using what we consider the basic pathology, the disturbed mother-child relationship, to obtain that relief. If our findings are confirmed this method could result in a great saving of therapeutic time, and also free the psychiatric social worker from her long hours with the mother to tackle more serious social problems. It could reduce the inconvenience to mother and child in attending the clinic for months on end, and save many half-days of schooling.

SUMMARY

Behaviour problems in 22 children were approached by group treatment of the

mothers aimed at the modification of their attitude to the children. Results are better than for a matched number of children treated by orthodox play-therapy for the child and case-work for the mother.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinion of the Journal.)

COMPARISON OF A PSYCHOACTIVE DRUG AND AN ANABOLIC STEROID IN CHRONICALLY ILL MENTAL PATIENTS

A. BARRON, M.D., L. H. RUDY, M.D., AND J. A. SMITH, M.D.¹

Perhaps the greatest problem in psychiatry continues to be the lack of an effective treatment for those patients already chronically ill and those who are becoming so. In spite of the increased concern over the possible undesirable side effects of new products, the most encouraging new therapies which are available for trial, rather than discussion, are drugs.

Carphenazine was compared with oxymetholone, an anabolic steroid, and a placebo in a group of chronically ill patients. Oxymetholone was included because of a reported euphoria in some patients taking this compound. In addition it had been reported as being a desirable adjunct in the treatment of schizophrenia.

The group treated consisted of 30 chronic female patients residing on the same ward in a state hospital. Their ages ranged from 24 to 61 years, and the average length of hospitalization was 10.9 years. The diagnoses were schizophrenic reaction, 29, and chronic brain syndrome with psychotic reaction, 1. The study was carried out as a "double blind with a cross over."

The 30 patients were randomly divided into 3 groups of 10. Each group received an active preparation and a placebo for one month. A 7- to 10-day drug free interval was allowed after each change of medication.

Standardized forms were used for recording behavior change. These forms have been previously described(2). The usual behavior of the participating patients was

known to the nurse observer who made the recordings. A control evaluation was made before and at the finish of each period of drug administration. In addition weekly standardized progress notes were kept. The nurse worked directly with a psychiatrist who examined any patient in whom side effects were reported.

Complete blood counts, alkaline phosphatase and thymol turbidity studies were done prior to the beginning of the study and at weekly intervals, during the course of the evaluation.

The dosage of each compound was increased at 10-day intervals. The amount of each product given daily, orally, was as follows: carphenazine, 75 mgm, 100 mgm and 150 mgm; oxymetholone 5 mgm, 7.5 mgm and 10 mgm.

The patients' clinical responses during the study were tabulated as worse, no change, slightly improved, moderately improved and markedly improved.

The results with carphenazine: 2 worse, 18 no change, 8 slightly improved, 1 moderately and 1 markedly improved. Oxymetholone showed the following: 9 worse, 18 no change and 3 slightly improved. During the interval of placebo administration, 18 of the patients were worse and 12 showed no change.

A gain in weight previously observed during the administration of carphenazine did not occur in this study. No serious side effects occurred during the length of the study. Two patients who were receiving carphenazine showed a slight decrease in leukocytes; this was a minimal change and was not attributed to the drug being given. The side effects from carphenazine were controlled by reducing the dosage or by

¹ Illinois State Psychiatric Institute, Chicago, Ill. Appreciation is expressed to the Wyeth Labs. for supplies of carphenazine (Proketazine) and to Syntex Lab. Inc. for supplies of oxymetholone (Anadrol).

the use of antiparkinsonian medication. The undesirable changes occurring with oxymetholone and the placebo were primarily an increase in agitation.

DISCUSSION

The use of a "cross over" technique and the giving of the different active preparations, and a placebo, in identical capsules allows one to attribute more validly whatever changes are observed to the preparations being evaluated.

The results obtained can only be considered in the light of the severity and chronicity of the illness in the patients being treated. The changes which occurred with carphenazine are comparable to those previously observed.

It was felt the 3 patients who responded to oxymetholone may have common characteristics not shared by other members of the group; and they are being studied separately. Since patients presently diagnosed as schizophrenic may represent several different etiological entities, there may well be a sub-group for whom an anabolic steroid is indicated although it is not possible at the moment to identify them—except by clinical trial.

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PHENELZINE IN THE TREATMENT OF DEPRESSION

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Recurrent depressions of various types constitute the most frequent psychiatric symptom complexes seen at the adult psychiatric clinic of the Beth El Hospital. Since the advent of the monoamine oxidase inhibitors approximately 4 years ago, several of them have been found to produce serious toxic effects and no longer are used. Others, however, have been employed continuously since their introduction and, in addition to being effective, have been found safe in most respects. One of these latter agents, phenelzine sulfate,² has maintained an exceptional record of safety in our experience, as the following report reflects.

Method. Approximately 300 patients with various types of depression were treated with phenelzine during the past 2 years; 77 (56 women and 21 men, ranging in age from 19 to 72 years) were selected for this report as being representative of the types of depression treated. The diagnoses were: psychoneurotic depression in 49 patients, psychotic depression in 27, and postpartum depression in 1. All had undergone physical and laboratory examination and had re-

ceived one or more forms of treatment prior to receiving phenelzine, including tranquilizers, ECT, and other antidepressants.

Physical and laboratory examinations were performed before, during, and at the completion of the study. All previous therapy except for geriatric vitamins was discontinued. The dosage of phenelzine sulfate was based on the severity of depression, with the majority of patients receiving initial and maintenance doses of one tablet (15 mg.) t.i.d. The efficacy of phenelzine therapy was considered *satisfactory* or *unsatisfactory* on the basis of symptomatic improvement and ability of the patient to resume activity at a normal level of efficiency.

Results. Approximately 82% of the patients responded to therapy with phenelzine; 70.1% obtained satisfactory results. The response was excellent in 69.4% of the patients with psychoneurotic depression, in 70.4% of those with psychotic depression, and in 1 patient with postpartum depression. The response to phenelzine was evident within 5 to 15 days. Patients in the older age groups were particularly responsive. There was no evidence of toxicity. Side effects (headache, insomnia, and con-

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² Nardil®—Warner-Chilcott.

stipation) were mild and easily controlled. Significant lowering of blood pressure did not occur in any of the normotensive patients; however mild orthostatic hypotension did occur in hypertensive patients, but was readily overcome by the use of methylphenidate.*

A comparison of the results obtained with phenelzine and those with other MAO inhibitors (1, 2) showed that the percentage of satisfactory results was approximately the same. The major clinical differences were the severity and frequency of side effects associated with the other drugs that were not observed with the use of phenelzine.

CONCLUSION

Phenelzine provides effective therapy for the treatment of depressed patients, and is especially effective in patients in the older age groups. Because of its safety and lack of severe side effects, it should be used in preference to ECT, except when the threat of suicide is acute or an immediate improvement is required, without regard to other factors.

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THE FALLACY OF THE "DOUBLE BLIND"

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In the early years of psychotropic drug therapy, clinical research reports on the same drug by different investigators often gave contradictory results. This led to considerable confusion and to the conviction that the difference in results was due to the bias of the investigators and the suggestibility of the patients. An effort was made to rectify this and bring as much objectivity as possible to the research project. For this purpose the "double blind" study was initiated.

In the "double blind" neither the investigator nor the patient were aware of the nature of the medication. The drug under study was given at a predetermined dose to a random sampling of patients, and a placebo under the same appearance as the drug and in the same number of tablets was given to a comparable sampling of patients. At the end of a predetermined period the patients were evaluated as to degree of improvement. Then a cross-over often occurred, the patients on the active drug receiving the placebo, and those on placebo receiving the drug. After another period the patients were again evaluated. It was not till then that the "double blind" was broken, and the investigator was told who was re-

ceiving the active drug and who the placebo. In this way it was hoped that the results of the investigations would have objective and scientific validity.

Unfortunately the "double blind" was based on some false premises. For example, it did not take into consideration the fact that tranquilizers have two separate and distinct actions, a sedative or calming action, which can be seen and measured relatively soon after administration of the drug, and an anti-psychotic (*i.e.*, anti-delusional and anti-hallucinatory) action, which may not be detected for several months. However, in most "double blind" studies the patients were kept on the drug for only a few weeks. Thus, although these studies could measure solely the sedative action of the drug, they purported to measure its entire effectiveness. The result was that false conclusions were reached; in fact, several "double blind" studies concluded that tranquilizers had no advantage over phenobarbital.

Another false premise of the "double blind" was the assumption that patients with the same symptom would respond in the same way to the same amount of the drug. It was like saying that all diabetics with the same fasting blood sugar would require the same amount of insulin. How-

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ever, we know from clinical experience that dosage is a very important factor in determining the success or failure of drug therapy, and that patients with apparently the same symptom will differ greatly in their dosage requirements. Therefore, the "double blind" study in disregarding the individual dosage needs of the patient cannot give a valid picture of the effectiveness of a drug.

There is also a self-deception which is being practised in many "double blind" studies. In order to take into consideration the varying dosage needs of the individual patients, some recent studies have been designed so that a fixed dose is given for only 1 to 3 months; and thereafter the physician may change the dosage in accordance with his clinical judgment, although presumably he does not know which is the active drug and which is the placebo. In this way, it is believed that the "double blind" remains intact while the drug dose is being varied. However, we know from experience that all tranquilizers with anti-psychotic activity will produce extra-pyramidal side effects, either parkinsonism, dystonia or akathisia, if the dose of the drug is raised sufficiently. Therefore, if the investigator keeps raising the dose in an

effort to obtain better therapeutic results he will eventually produce side-effects which will betray the nature of the drug he is using. Is this not a bit of self-deception to continue calling such a study "double blind"?

It is not possible to gain a valid evaluation of a drug, and eliminate the clinical skill and judgment of the investigator, just as it is not possible to obtain a valid picture of the effectiveness of psychoanalysis without considering the clinical skill of the analyst. It is erroneous to believe that treatment with a certain drug will have the same result, no matter who the therapist is, (and I am excluding any concomitant psychotherapy). To treat effectively with drugs requires experience, training and clinical acumen.

Yet, despite all these deficiencies of the "double blind," it is still proposed as the method of choice in the investigation of psychotropic drugs; and the results of the "double blind" study are automatically considered to be scientifically valid. However, instead of bringing clarity, the "double blind" has only succeeded in adding to the confusion by many half-truths and unwarranted conclusions.

CASE REPORTS

PERIODIC PSYCHOSIS OF PUBERTY

MARK D. ALTSCHULE, M.D., AND JACOB BREM, M.D.¹

Most of the recent discussions of syndromes currently called "schizophrenic" relate exacerbations and remissions to environmental factors. However, the literature contains scattered reports of patients with similar psychoses that are characterized by such periodicity as to suggest the action of internal factors. The cases reported fall into two categories: (a) periodic psychoses in women postpartum, and (b) periodic psychoses in puberty (called in the German literature "periodische Umdämmerungen in der Pubertät," or periodic "twilight," i.e., confusional, states in puberty). An instance of the second type of syndrome forms the basis of the present report. Recognition of this syndrome is important both for practical reasons (it has a good prognosis) and for theoretical reasons (it emphasizes that what is called schizophrenia consists of a heterogeneous group of conditions).

The patient, aged 13 when the present illness began, had her first psychotic symptoms on October 18, 1959. On that day, during one of her menstrual periods, she began to have visual and auditory hallucinations, to be confused and frightened, and to become markedly overtalkative. According to her mother, the patient's speech was rambling and contained many references to imaginary persons in other rooms or outside the house who criticized or threatened her. She did not recognize that she had hallucinations and delusions.

The family history was not remarkable. The patient was a first child, born at full term; delivery uneventful. Her mother had had extreme anorexia and some vomiting during the first 3 months of pregnancy. The patient started to walk and talk normally and grew normally except that she had always had a small head. She had had mumps and measles of average severity. She was retarded in intelligence but not markedly so; she had always attended ungraded classes at school. The patient often became nervous when she encountered

unfamiliar situations. Her periods began at age 11 and always lasted for 7 to 9 days. Profuse protracted flow, and the passage of many clots, characterized the first period. The patient was seen by a physician who gave an injection of 40 mg. of proluton, which terminated the hemorrhage.

The psychotic episode that ushered in the patient's illness led to her being hospitalized for a few days at St. Vincent's Hospital in Worcester, Mass. where skull roentgenograms, lumbar puncture, and serologic tests gave an normal. A slight anemia was found, for which iron was prescribed.

The evidences of psychosis disappeared quickly, and the patient was discharged. Her next period was uneventful except for nervousness and irritability. However, during the following period, which began Dec. 30, 1959, the patient again became hallucinated, deluded, confused, and frightened. She was readmitted to St. Vincent's Hospital on Jan. 3, 1960, after 3 days of illness. She was seen to be responding to auditory hallucinations and was in poor contact with her environment. The patient was given Compazine, 5 mg. t.i.d., and varying amounts of Sparine; her mental symptoms cleared rapidly on the ninth hospital day. She also received a urinary antiseptic drug for a 2-month period, because of albuminuria and slight pyuria. She was discharged with orders to take Compazine 5 mg. t.i.d. before and during her menstrual periods.

The patient had an attack of herpes zoster late in February, 1960, but otherwise she did well until April, when she once more began to have mental symptoms with her periods, despite the use of Compazine. On Aug. 31, 1960, these symptoms were so severe as to require hospitalization once more; she was menstruating at this time. She was confused and fearful and had auditory hallucinations.

The patient first came to the Laboratory of Clinical Physiology at McLean Hospital Oct. 7, 1960, at which time she appeared to be a pleasant but slightly retarded girl who seemed nervous, but not inappropriately so. The next day her period started; she rapidly became confused and apprehensive, and responded to visual and auditory hallucinations. Readmis-

¹ Respectively, Waverley, Worcester, Mass.

sion to St. Vincent's Hospital was followed by recovery in about a week. The patient's next period started Nov. 20, 1960; she became restless and irritable, but had no other mental changes. Three periods subsequently were uneventful. Her course remained unchanged until Mar. 29, 1961, when she became irritable again; 2 months later her psychosis recurred. During the next year several recurrences in association with menstrual periods required hospitalization again.

Physical examination at the McLean Hospital showed a large girl whose head was small for her age and size. The blood pressure was 110 mm. of mercury systolic and 70 mm. diastolic. The finding of a mild normochromic normocytic anemia was confirmed (the hematocrit reading was 37% cells).

DISCUSSION

The clinical syndrome described here seems to be rare. The disorder does not appear to be related to one commonly seen in schizophrenic and manic-depressive women, *i.e.*, exacerbation of the symptoms starting 5 to 10 days before the period and lasting until a day or two after the onset of flow. In such instances the patients remain mentally abnormal after the end of the exacerbation.

The syndrome here discussed resembles to some degree the "hyperestrogenic cyclic psychosis" described in a patient by Lingjaerde and Bredland(1); their patient had a postpartum manic psychosis and the episodes of psychotic illness occurred before nearly every period. It is interesting that other clinical instances of periodic psychoses also have been reported in postpartum patients(2, 3).

Williams and Weeks(4) reported on 16 cases of premenstrual tension accompanied by psychotic manifestations; however, their paper is difficult to evaluate thoroughly because of the paucity of data. Of their 16 patients 4 were under 14 years of age. The time of onset of severe mental symptoms was given as 1 day before the period in 5 cases. This does not differ significantly from the findings in our patient, whose psychosis sometimes began on the first day, although it often began a few days later.

Grosch(5) and Wenzel(6) each reported a patient with a syndrome that they called "periodic confusional state in puberty." The

patients were girls, one of whom—like our patient—was mentally retarded; the illness consisted in cyclic episodes that began a few days to a week before each period. The symptoms were apathy, lack of initiative, depression, hypochondriasis, anxiety, confusion, and, in Grosch's(5) case, hallucinations. These patients, together with some of those of Williams and Weeks(4) and the one described here, seem to constitute a clinically-homogeneous group with a syndrome of cyclic severe mental change related to menses and starting at puberty. Except for the time of onset, the syndrome resembles one that occurs in postpartum psychosis, as noted above(1-3). These considerations suggest that some disturbance of female sex-hormone production or metabolism is the cause of the syndrome, no matter at what age it occurs. However, this conclusion is negated by the fact that Beringer(7), Pipkin(8), and Grahmann(9) each reported severe cyclic mental changes beginning at puberty in boys; the cycles in some of the cases also were 4 weeks apart. Accordingly, relating the syndrome directly to the menstrual cycle appears to be invalid. On the other hand, the occurrence of the syndrome in boys and girls at puberty and in women in the postpartum period suggests that some disturbance in anterior-pituitary gonadotropic function is the cause of the syndrome.

However, no conclusion can be reached about the classification of the syndrome, either on the basis of its etiology or on the basis of its clinical manifestations. For the present the patient is best regarded as having a periodic psychotic syndrome of unknown origin and mechanism. The findings in the case here described and in the similar ones reported in the literature emphasize the inadequacy of any currently-popular description of the pathogenesis or even the nature of what is now called schizophrenia. In fact, the validity of the diagnosis of schizophrenia may be seriously questioned in any case. The criteria used in its diagnosis vary to such a degree from physician to physician and even in the same physician from time to time as to limit seriously the usefulness of the term (10-12). The findings in patients with periodic pubertal psychosis suggests that

in at least some patients the cause of the so-called schizophrenic psychosis is metabolic and not sociologic, unless one wishes to adhere to the hypothesis that sociologic phenomena are affected by the phases of the moon and by sunspots, and are therefore also cyclic.

SUMMARY

The clinical course of an instance of periodic psychosis in puberty is described. The findings in this and similar patients discussed in the literature indicate the existence of a psychotic syndrome in boys and girls that begins at puberty. The partial similarity to another periodic cyclic syndrome, that which occurs postpartum, is pointed out. The findings in cases such as the one reported show the inadequacy of hypotheses concerning the sociologic etiology of so-called schizophrenia and also indicate that the diagnosis of schizophrenia does not apply to a homogeneous group of patients.

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GALACTORRHEA, HEADACHE AND WEIGHT-GAIN DURING TREATMENT WITH THIORIDAZINE

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BOYD M. KROUT, M.D., AND EARL C. BURGESS, M.D.¹

Galactorrhea(1, 5-7) and weight-gain(4) have been recognized as occasional side effects of phenothiazine drugs, but the occurrence of severe, disabling frontal headache during treatment with a phenothiazine compound has not received adequate attention(2). Two cases with these manifestations during treatment with thioridazine (Mellaril) are described.

Case 1. A 21-year-old emotionally unstable woman was hospitalized on 8/25/61 because of anxiety, aggressive outbursts and dissociative episodes. There was no history of galactorrhea, frequent headache or other CNS symptoms. Physical and neurological examinations, routine laboratory studies, EEG, spinal fluid, and skull x-rays were within normal limits. Be-

ginning 9/12/61 she was given thioridazine 300 mgm., and later, 450 mgm. per day. She improved noticeably but on 9/17/61 began to report severe frontal headaches which thereafter occurred almost daily and required analgesics. On 10/5/61 her breasts were noticeably enlarged, secreting copious amounts of fluid. She reported also a ravenous appetite and a rapid gain in weight from 130 lbs. on admission to 149 lbs. on 10/9/61.

On 10/9/61 thioridazine was discontinued; headaches stopped on 10/12/61. A gradual loss of weight to 141 lbs. and decrease in the size of the breasts followed. Thioridazine was begun again on 11/7/61 and the daily dose was gradually increased from 200 mgm. to 800 mgm. On 11/20/61 she reported that headaches had returned and on 11/25/61 that her breasts were again enlarging and secreting fluid. Her weight then was 147.5 lbs. Normal menses occurred during her hospitalization. Flow of colostrum and headaches did not recur after 11/27/61 despite continued

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use of thioridazine for one month after discharge on 11/29/61.

Case 2. A 29-year-old chronically schizophrenic woman was hospitalized on 9/26/61 because of overwhelming fears of impending death and of harming others. Prior to this, while being treated as an outpatient with prochlorperazine (Compazine) she had noted intermittent galactorrhea and recurrent severe frontal headaches which had raised concern about a possible brain tumor. It is interesting that during this period prochlorperazine was repeatedly started and stopped on the advice of various physicians who saw her. With this exception, headaches were not prominent in her past history. Physical and neurological examinations, routine laboratory studies, spinal fluid, EEG and skull x-rays were within normal limits. Beginning 10/6/61 she was given thioridazine, 600 mgm. and later 1000 mgm. per day. Soon she improved markedly. On 10/20/61 she complained that "milk" was flowing from her breasts which were firm and enlarged. Severe, prolonged, frontal headache, occasionally associated with nausea and vomiting, occurred almost daily between 10/22/61 and 12/17/61 when it finally disappeared. Enlargement of the breasts persisted, but colostrum no longer drained spontaneously. Her weight rose from 190 to 194 lbs. then slowly returned to 190 lbs. Normal menses occurred during the hospitalization.

Because of the patient's still tentative improvement, thioridazine was not discontinued. The patient was discharged, improved, on 12/21/61. Four months later while still on thioridazine she showed some persistent enlargement of her breasts, but headaches and weight-gain had not recurred.

The occurrence of galactorrhea and weight-gain in certain patients receiving phenothiazine drugs has been attributed to activation of the hypothalamic-pituitary mechanisms. Presumably a temporary, partial, hypothalamic inhibition is followed by pituitary release (6, 8). The phenothiazine-

induced headache has not received attention in the literature. We wonder if it also may not be of pituitary origin, akin to the headache of acromegaly, and due to engorgement and stimulation of the gland. In any case, one notes that a certain "escape effect" seems to occur and that breast changes, headache, and weight-gain tend to subside, even though administration of the drug in high dosage is continued. Certain practical diagnostic considerations need to be kept in mind in connection with these phenomena. Severe, persistent frontal headache occurring alone or together with galactorrhea, may raise concern about a possible brain tumor. Headache that is somewhat less severe and insistent and occurs alone may be ascribed erroneously to emotional factors and prompt the physician to increase the dose of the ataraxic. Breast enlargement, weight-gain, and amenorrhea (sometimes seen together with a positive pregnancy test (3, 4)) may falsely indicate an early pregnancy.

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A TOXIC REACTION TO COMBINED ELAVIL—LIBRIUM THERAPY

FRANCIS J. KANE, JR., M.D., AND TERRY W. TAYLOR, M.D.¹

It is now known that fatal toxic reactions can occur with combined drug therapy of

depression, particularly involving the use of Tofranil and MAO inhibitors together (1). No previous cases of toxicity have been reported with the combined use of

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Librium and MAO inhibitors(2).

A 48-year-old married man was admitted to the psychiatric inpatient service of the North Carolina Memorial Hospital on 11/6/62, because of persistent depression and inability to function as formerly. He had been hospitalized in Sept. 1962, at his local hospital because of this depression, was put on Elavil, 75 mg. daily and Librium, 30 mg. daily, had improved and been discharged. At home he worsened, increased his medication to 40 mg. Librium and 150 mg. Elavil daily, and was noted thereafter to become forgetful, confused, speak with slurred speech, and seem incoordinated. He was accused of being drunk on several occasions. On admission the patient was cooperative, oriented, and showed no serious affect depression. He abstracted in a concrete fashion, and made serious errors on serial subtraction. He also complained of diplopia while playing ping-pong. Physical examination revealed slowed speech, hand tremor, coarse 60/minute tremor of both hands, worse on attempted performance of task, adiadochokinesia on the left, dysmetria bilaterally on finger-nose testing. He needed two hands to put his cigarette in his mouth. EEG was within normal limits, x-rays of the skull showed slight pineal shift of no significance clinically. Neurological examination on 11/16/62, showed clearing of most of the physical signs except for the slight incoordination that was generalized. Psychological testing revealed definite impairment of fine motor and visual motor coordination and some cortical impairment shown by impaired ability to abstract, as well as some difficulty with memory. Depression was not prominent. He was dis-

charged on 12/18/62, much improved with no residual symptoms, mental or physical.

This patient showed a moderate acute brain syndrome associated with considerable impairment of motor coordination suggestive of cerebellar disfunction. Since Librium has been known to cause ataxia, it seems possible that this may be an exaggeration of this known side effect. The concomitant use of Elavil in large doses may be related casually to this exaggerated response. It is of interest that a case similar in many respects has been reported with Reserpine therapy(3).

SUMMARY

The occurrence of an acute brain syndrome with evidence of cerebellar dysfunction following the ingestion of Librium and Elavil concomitantly would seem to indicate an enhancement of the toxic effect of these drugs and would indicate extreme caution in their use together. The occurrence of similar incompatibilities among drugs used and the treatment of depression is well known and fatalities have been reported.

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TOXIC PSYCHOSIS DUE TO IODOFORM

ALAN L. MORGENSTERN, M.D.¹

Psychiatric symptoms due to iodoform toxicity were better known to surgeons of previous generations than they are to psychiatrists of today. Iodoform was more widely used several decades ago and the best descriptions of its toxic effects are found in textbooks of that era. There are no references to the mental symptoms of

iodoform toxicity in the current psychiatric literature.

Psychotic depression was suspected in a 68-year-old woman on a general surgery ward and psychiatric consultation was requested. The patient had come to the hospital 4 months previously for removal of a malignant melanoma of the right sole; there were no signs of metastasis. She returned 2 months later for perfusion of the right lower extremity, right groin dissection, and skin grafting. To stimulate healing of the sites of surgery daily packing

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1963]

with iodoform gauze was begun. In the next several days the patient's pleasant and alert state of mind changed drastically. She appeared depressed and soon was so uncommunicative and confused that the possibility of a functional psychosis was considered. Her previously good appetite disappeared and she refused all nourishment. The patient wandered around the ward and had to be led back to her bed; she was more confused at night and slept poorly. During this time her pulse varied from 80 to 120 and temperature from 36.0 to 37.5; respiratory rate and blood pressure remained normal. Repeated physical and laboratory examinations failed to reveal the cause of her worsened condition.

When the patient was seen in consultation she was delirious. She thought the year was 1898 and that she was in her home town; she had no understanding that she was sick and in hospital. A daughter was the only family member she recognized. Recent and remote memory were severely impaired and other measures of intellectual functioning were similarly compromised. It was possible to learn from the patient that she did not feel guilty and that she was neither hallucinating nor delusional.

It was suggested that the patient's delirium might be caused by iodoform and accordingly vaseline dressings were substituted. Within 4 days she was normally alert and all evidence of delirium had disappeared. During these 4 days she was helped to eat and drink and no medications were given. The patient later underwent more surgery without unusual mental symptoms.

Iodoform (triiodomethane) was discovered in 1828 and first used as a remedy several years later. It was introduced into the U.S.P. in 1870 and by that time was being used mainly as an antiseptic. Therapeutics textbooks of the end of the 19th century discuss in detail the delirious re-

actions of iodoform sensitivity². Older patients are most susceptible. The early symptoms are anxiety and depression which are followed by restlessness and insomnia. Mania occasionally occurs. Delirium follows the early symptoms and may be accompanied by visual hallucinations and persecutory delusions. The delirious patient usually has a small and rapid pulse despite normal temperature and respiratory rate. If the cause of the delirium is not discovered coma and death may result.

Most cases of iodoform delirium occur in patients who have large abraded or ulcerated surfaces painted with the drug or have abscess and other cavities packed with iodoform gauze. The symptoms are thought to be due mainly to hypersensitivity to the iodoform absorbed. In addition the alkaline and protein fluids of the body hasten the drug's decomposition into iodine and iodides which may exert toxic effects, including action on the thyroid.³

The treatment of an iodoform delirium rests on the discovery of its cause and prompt removal of the drug. No really practical laboratory test is available to help in diagnosis. While the patient is recovering only general supportive measures are required.

SUMMARY

Toxic psychosis due to iodoform hypersensitivity is uncommon and is rarely recognized. It generally occurs when the drug is painted on large surfaces which allow its absorption or when iodoform gauze is used as a packing in cavities. This case showed the typical mental symptoms of depression followed by delirium. The treatment is removal of the drug and general supportive measures until recovery is effected.

³ von Oettingen, W. F.: *Poisoning, A Guide to Clinical Diagnosis and Treatment*. Philadelphia: W. B. Saunders, 1958.

² Foster, F. P.: *Reference-Book of Practical Therapeutics*. New York: D. Appleton, 1897.

COMMENTS

THE RELATION BETWEEN MONEY AND SERVICES

"Action for Mental Health" has had excellent effect in furthering popular knowledge of the needs and opportunities for development in the mental health field. In program, its primary stress was on treatment beginning closer to the home of the patient and, whenever possible, on its being completed within the range of the home community. This aim was assumed to be within the possibility of accomplishment to such an extent that the familiar large mental hospital with its load of custodial cases would have to be turned over for other use; a projected history something like that of tuberculosis hospitals was formulated. The change from present systems of treatment to the one envisioned was expected to cost triple current expenditures. And for the most part, "Action" left the matter there. Little or nothing was said about the administrative structure of the services to be built for the recommended local development, nor of the way the various sorts of personnel were to be organized to furnish service to the public.

The President's remarkable address to Congress on mental illness and mental retardation of February 5, 1963, helps to fill the gap "Action" left unfilled by proposing mental health centers as the primary unit to furnish local services. The message contemplates two possible loci for these centers, the general hospital (since it is mentioned first it may be assumed to be preferred) and a separate institution offering multiple services. But the administrative structure for the local service remains unclear. Citizens of communities could rightly have taken umbrage if the President or any other federal governmental authority had been explicit as to what the local organization should be. The fact remains, however, that the political authority suggested a more specific way of filling the gap between the money and the services than did the professional report, "Action."

It still appears to be a popular fad in psychiatry that administration is of a lower

order of practice than therapeutics; this notion probably accounts for the failure of "Action" to have tackled the problems of the gap between money and service in any telling fashion. Administration did get more than the usual amount of attention in December's Conference on Psychiatric Education; perhaps this is evidence of a changing point of view that will give more respect to the way things can get done. Advance in knowledge demands that some men protect themselves from the real world of pressures of service and devote themselves to research, but sometimes it appears that not love for basic research but unwillingness to accept the profession's responsibility for service has been the controlling interest.

Many administrators have pointed out that it is often quite impossible to distinguish between the psychological principles used in administration and those used in therapy, particularly if one includes group therapy. In both instances, the ultimate object is to obtain action, behavior, that will lead to relief of a problem. The difference is not so much in principles as in the selection of who is to get the attention. According to the popular stereotype of individual therapy, the selection of the patient he will accept is made by the therapist. Even outside this group, the patient will be seeking treatment or others will be seeking it for him; a direct need for service is recognized. In administration, the people to be worked with are selected by others, the electorate, the group of directors of a private agency, the elected legislature or board of county commissioners. The administrator works for the most part with people selected primarily for reasons other than promoting community mental health. Too frequently, he works with people quite unmotivated to accept his aims for mental health services for the community.

The skills and methods of administration are designed first to enable the administra-

tor to improve the motivation of these sorts of persons to consider the problems of the community in the area of responsibility he represents. When he has their attention, he has the opportunity to present his suggestions for the needed change, improved and extended services. He is working with a tenuous motivation which might be considered as something like an ambivalent transference. In this situation, his proposals must be actionable, specific. If, for example, a mental health center is desirable, its mode of operation and cooperation must be specifically spelled out, its financing clear and its capacity for helping defined in terms of needs to be met in the place where it is to be. The lesson of the Fountain Committee must be learned,

namely, that the "common man" does not expect the scientist to be any more pure and high-minded than he, the "common man," is. Just as the ordinary citizen is expected to budget, so the scientist is expected to plan so that ends meet. The challenge to administration is to fill the gap between the need for money and the need for services with a workable administrative structure in the realm of the "art of the possible." Psychiatry cannot abhor the administrative vacuum, nor ignore its challenge; it must fill it or be displaced by someone or some group which does see the function of administration as the challenge to skill in human organization it presents.

Paul V. Lemkau, M.D.

RULES OF CONDUCT

The end of society is peace and mutual protection so that the individual may reach the fullest and highest life attainable by man. The rules of conduct by which this end is to be attained are discoverable—like the other so-called laws of Nature—by observation and experiment, and only in that way.

—THOMAS HUXLEY

NEWS AND NOTES

SIXTH EUROPEAN CONFERENCE ON PSYCHOSOMATIC RESEARCH.—This conference will take place in Athens, Greece, May 6-8, 1964. The main topics will be: (1) Psychosomatic Aspects of Heart Diseases; (2) Gynecological Problems (Frigidity-Sterility-Painless Childbirth) and their Psychosomatic Aspects; and (3) Skin Diseases from the Psychosomatic Standpoint.

A section of free papers will also be arranged. The official language of the Conference will be English, but a speaker may use French or German if his paper, translated into English, is available for all the congress members.

Address all correspondence to: George S. Philippopoulos, M.D., 4 Monis Petraki St., Athens (140), Greece.

THE ACADEMY OF PSYCHOSOMATIC MEDICINE.—The Academy is meeting in San Francisco, Oct. 17-20. Arrangements are being made for a pre- and post-convention tour, with a seminar in Chicago on Oct. 15, and a seminar cruise aboard the S.S. *Lurline* from San Francisco, leaving the night of Oct. 19, and a seminar in Honolulu, Oct. 25. The party will fly back to the mainland on the 27th. Any persons interested in taking part in this cruise should contact Dr. James L. McCartney, 520 Franklin Avenue, Garden City, N. Y. for details.

DR. OVERHOLSER HONOURED BY THE AMVETS.—This organization, made up of veterans of World War II and the Korean War, at their recent national convention presented their Silver Helmet, an award in the field of rehabilitation, to Dr. Winfred Overholser, long-time superintendent of St. Elizabeths Hospital, "in recognition of his unsurpassed dedication and superb contributions to man's eternal struggle against man's greatest enemy—mental illness."

THE AMERICAN NEUROLOGICAL ASSOCIATION.—The 88th annual meeting of the Association will be held at the Claridge Hotel, Atlantic City, N. J. June 10-12, 1963 under the Presidency of Dr. Charles

Aring. Programs may be purchased at the time of the meeting or mailed from the Secretary's Office after May 15th at a cost of \$2.00. Information may be obtained from the Secretary, Dr. Melvin D. Yahr, Neurological Institute, 710 West 168th Street, New York 32, New York.

The Fulton Society will hold its first annual meeting on Sunday, June 9th at 2 P.M. at the Claridge Hotel.

The meeting of the American Association of Neuropathologists will be held June 8-9 at the Hotel Dennis, Atlantic City. Inquiries regarding this meeting should be directed to Dr. Irwin Feigin, Secretary, 550 First Avenue, New York 16, New York.

STANFORD UNIVERSITY SCHOOL OF MEDICINE, PSYCHIATRIC FACULTY.—Four senior appointments to the Department of Psychiatry have recently been made: 1) Dr. Seymour Levine from the Institute of Psychiatry, Maudsley Hospital, London, whose special interest is the biological analysis of behavior development; 2) Dr. William C. Dement from the Department of Psychiatry, Mt. Sinai Hospital, New York who is interested in the biology of sleep and wakefulness; 3) Dr. P. Herbert Leiderman from the Department of Psychiatry, Harvard University, who will soon join the staff, is mainly interested in the effect of social environment on individual behavior and physiologic processes; and 4) Dr. Raymond B. Clayton, Department of Chemistry, Harvard University, to arrive in the summer, who will work on biochemical studies in brain function and behavior.

AUTHOR'S REQUEST RE DR. JUNG LETTERS.—Dr. Gerhard Adler has been entrusted by the heirs of the late Dr. C. G. Jung with the editing of his correspondence, and would be most appreciative if anyone possessing letters would communicate them to him at the Bollingen Foundation, 140 E. 62nd St., New York 21, N. Y.; either originals (which will be returned immediately upon being copied), or photocopies (any expense incurred in making copies will be

refunded). It is not intended to publish material of a strictly personal nature, and correspondents may indicate whether any parts of the letters should for the present be withheld from publication.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are new Diplomates who successfully completed the Board examinations given in New Orleans, La., Mar. 30, Apr. 1-2, 1963:

PSYCHIATRY

Adams, Paul Lieber, M.D., Gainesville, Fla.
 Anolik, Boris, M.D., Albany, N. Y.
 Arlen, Monroe S., M.D., University Heights, Ohio
 Ashley, Robert E., M.D., Tulsa, Okla.
 Barsman, Jack, M.D., Harrisburg, Pa.
 Baumecker, Peter, M.D., Trenton, N. J.
 Beck, Leah, M.D., Eastchester, N. Y.
 Berg, Michael Clement, D.P.M., New Rochelle, N. Y.
 Berger, Merton B., M.D., Rochester, N. Y.
 Bishop, Mary McFayden, M.D., St. Louis, Mo.
 Campbell, Thomas Douglas, M.D., Traverse City, Mich.
 Cramer, Earl H., M.D., San Antonio, Texas
 Dean, Donald Blair, M.D., Eldridge, Calif.
 Dickerson, William J., M.D., San Francisco, Calif.
 Draper, Walter, M.D., Richmond, Va.
 Edwards, Robert V., M.D., Sheridan, Wyo.
 Evans, Marvin W., M.D., Lakewood, Ohio
 Fair, Ellis Edwin, M.D., Ponca City, Okla.
 Fill, Joseph Herbert, M.D., St. Thomas, V. I.
 Frankel, Norman, M.D., New York, N. Y.
 Friedman, Lawrence, M.D., New York, N. Y.
 Griffith, John Dorland, M.D., Clarksville, Tenn.
 Gritter, Gordon W., M.D., San Francisco, Calif.
 Grolf, L. James, M.D., Los Angeles, Calif.
 Hirsch, Jay G., M.D., Chicago, Ill.
 Hodges, Robert Marc, M.D., Pasadena, Calif.
 Holden, Alan, M.D., New York, N. Y.
 Hsu, John J., M.D., Pontiac, Mich.
 Iverson, Robert F., M.D., Pacific Palisades, Calif.
 Janosko, Rudolph E. M., M.D., Pittsburgh, Pa.
 Johnson, James E., Jr., M.D., La Marque, Texas
 Kadar, Laszlo, M.D., New York, N. Y.
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 Kinder, Eugene J., M.D., Oak Park, Ill.
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 Kling, Arthur, M.D., Chicago, Ill.
 Knutsen, Elaine Jones, M.D., Sonoma, Calif.
 Lewis, Harvey A., M.D., Baltimore, Md.
 Lisowitz, Gerald M., M.D., Pittsburgh, Pa.
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 Loe, James Wallace, M.D., Pineville, La.
 Lowney, John Francis, Jr., M.D., Riverside, R. I.
 Lucas, Paul, M.D., Woods, Wis.

Luik, Silvia, M.D., Richmond, Va.
 Lurie, Jerome Lawrence, M.D., New York, N. Y.
 Lysloff, George O., M.D., Rapid City, S. D.
 Mangelsdorf, Thomas K., M.D., Clayton, Mo.
 Markellos, Theodore George, M.D., Torrance, Calif.
 Marks, Jack A., M.D., Tucson, Ariz.
 McGough, William Edward, M.D., Durham, N. C.
 McKinley, Robert Lee, M.D., Fort Sill, Okla.
 Mendelsohn, King Myron, M.D., Los Angeles, Calif.
 Mendelson, Jack H., M.D., Boston, Mass.
 Miller, William C., Jr., M.D., Charleston, S. C.
 Monson, Sónja Daffinrud, M.D., Madison, Wis.
 Moore, William T., M.D., Dallas, Texas
 Nehr, Donald A., M.D., Topeka, Kans.
 Osborn, Retus W., III, M.D., Pineville, La.
 Peters, William F., M.D., Seattle, Wash.
 Pratt, John Paul, M.D., Mandeville, La.
 Read, James Lamar, M.D., Washington, D. C.
 Rocah, Barbara Ellen S., M.D., Chicago, Ill.
 Rogers, Michael, M.D., Chicago, Ill.
 Rollins, Robert L., Jr., M.D., Tarpon Springs, Fla.
 Saltspe, Gunars, M.D., Brooklyn, N. Y.
 Samler, Jacob D., M.D., Bakersfield, Calif.
 Schonfeld, William A., M.D., White Plains, N. Y.
 Schwartz, Donald D., M.D., Chicago, Ill.
 Scott, Ralph T., M.D., Los Angeles, Calif.
 Sebastian, George Edward, M.D., Hammononton, N. J.
 Shopper, Moisy, M.D., New York, N. Y.
 Shuman, Joseph Scott, M.D., Richmond Heights, Mo.
 Smith, Richard H., M.D., Arlington, Mass.
 Sokol, Robert J., M.D., Beverly Hills, Calif.
 Spooner, M. Lawrence, M.D., Merion, Pa.
 Stennis, William, M.D., Philadelphia, Pa.
 Surawicz, Frida Gerarda, M.D., Lexington, Ky.
 Townsend, Walter R., M.D., Camarillo, Calif.
 Tuason, Vicente Bautista, M.D., North Battleford, Sask., Canada

Turke, Walter, M.D., Reseda, Calif.
 Tyson, Robert L., M.D., Cleveland Heights, Ohio
 Ungerleider, J. Thomas, M.D., Los Angeles, Calif.
 Vecozols, Aivests L., M.D., Columbus, Ohio
 Wachtel, Andrew S., M.D., Oak Ridge, Tenn.
 Waltzer, Herbert, M.D., Forest Hills, N. Y.
 Webb, William Logan, Jr., M.D., Baltimore, Md.
 Wells, David T., M.D., Sherman, Texas
 White, H. A. Patricia, M.D., Stockton, Calif.
 Zucker, Arnold H., M.D., Mount Vernon, N. Y.
 *Brandt, Henry Aimar, M.D., Savannah, Ga.

NEUROLOGY

Brumlik, Joel, M.D., Chicago, Ill.
 Drachman, Daniel Bruce, M.D., Bethesda, Md.
 Drachman, David Alexander, M.D., Bethesda, Md.
 Greer, Melvin, M.D., Gainesville, Fla.
 Higman, Henry B., M.D., New Orleans, La.
 Moser, Hugo W., M.D., Boston, Mass.
 Paulson, George, M.D., Raleigh, N. C.
 Thompson, Stephen W., M.D., Oklahoma City, Okla.
 Tiedman, M. Howard, M.D., Houston, Texas
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BOOK REVIEWS

SARTON ON THE HISTORY OF SCIENCE. Edited by *Dorothy Stimson*. (Cambridge: Harvard Univ. Press, 1962, pp. 383. \$10.00.)

George Sarton (1884-1956)^a was the founder of the modern study of the history of science. The journal he founded, and maintained at his own expense for the greater part of his association with it, *Isis*, is the most famous international journal on the history of science. Almost every issue of that journal was preceded by a preface written by Sarton. In the whole files of the history of science there was and is nothing comparable to those prefaces. Many a subscriber to the journal was led to become one by the accidental reading of one of those prefaces. Like nothing else that Sarton so ably wrote, they gave the character of the man: a combination of charm, idealism, poetry, and a rigorous addiction to truth and the methodology of science as applied to the study of the history of science.

Before his death Sarton drew up a list of his contributions to *Isis* which he thought might be worthy of reprinting. It is from that list that the present volume is made up. Articles on the scientific basis of the history of science, Avicenna, Maimonides, Leonardo Da Vinci, Simon Stevin, Montucla, Quetelet, Bonpland, Moseley, on the reviewing of learned books, iconographic honesty, remarks concerning the history of 20th century science, and much else, go to make up this highly readable sampling of a great man's work. It makes for the best kind of reading.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

THE ROLE OF SCHOOLS IN MENTAL HEALTH. By *Wesley Allin Smith*, and *George W. Goethals*. (New York: Basic Books, 1962, pp. 337. \$7.50.)

This volume is the seventh in the series of reports by the Joint Commission on Mental Illness and Health. It represents a vast amount of work in surveying the literature on education and mental health, over 5,000 books and articles being reviewed for this project. Two audiences were kept in mind by the authors—professionals in the fields of education and of mental health and citizens without special training who are interested in the topic. Nevertheless, it is of vital interest to any psy-

chiatrist who is concerned with the prevention of mental illness through improvement of conditions in society which predispose people to crippling emotional conflict.

The authors seek to answer the question, what if anything ought schools to do about mental health? Their discussion of the issues is sensitive and perceptive. Objections to school mental health programs are discussed with clarity and sympathy. For example, some people fear that the academic function of education may be jeopardized when teachers pay attention to emotional aspects of personality and character development. Others fear that attention to mental health promotes conformist ideas, or will cause people to "adjust" to conditions in society which should be criticized and improved.

The authors handle these and other such questions with great skill. They consider the goals of education and mental health promotion as quite compatible or even synonymous. They make a careful distinction between mental health concepts involved in teaching and the processes employed in psychotherapy. A teacher's understanding of human behavior is ideally used as a lever to enhance students' learning in every aspect of the curriculum.

In the ideal form of training for teachers, first preference should go to grounding in the subject that is taught, followed by familiarity with methods of teaching, a grasp of psychological principles concerning intellectual development and individual differences and aptitudes, understanding normal personality development and individual differences in motivation, acquaintance with mental hygiene and psychopathology of childhood and adolescence, and, finally, personal maturity in a teacher. It would be desirable if many teachers could teach subjects related to mental health, particularly sex education, courtship and marriage, child rearing practices, human relations, and some aspects of elementary psychology. The point of view in this book is not that teachers use mental health material as a primary focus in teaching but that they be familiar with these principles in order that they may do a better job than otherwise of promoting intellectual capacity and skill in their students.

DANA L. FARNSWORTH, M.D.,
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CLINICAL RESEARCH DESIGN AND ANALYSIS.

By *Eugene E. Levitt* (Springfield, Ill. : C. C Thomas, 1961, pp. 199. (8.50.)

This book has been written chiefly for clinicians who need to understand research methods and the necessary statistical devices for the analysis and evaluation of research data. Beginning with a philosophy for the behavioral scientist, the author presents in order, discussions of methodological concepts, types of investigations, the designing of an experiment, the validity of construct definitions, the experimental sample, statistical analysis of results, the drawing of inferences and conclusions, and suggestions on writing a research report.

The author's comments on the philosophy of science, methodology and fundamental statistical techniques apply generally as well to several divisions of biological science outside the strictly clinical field. In any research situation the objective of the project is of first importance. The more exactly and specifically the question can be formulated, the more clearly is the field of the investigator defined. It clarifies the issue and should reveal what the worker is really trying to find out. It constitutes the essential prerequisite of reliable research work.

The science of the experimenter must be systematic, mechanistic, materialistic, objective, verifiable and communicable and, therefore, the design of the experiment should not resemble a mixed grill of viands. Research data may be far more valuable for use in fields for which they were not intended, therefore they should be presented in a form that the conclusions can be checked by any qualified person. Statistical analysis is a necessary "tool" in most investigations, but it is all too frequently not handled efficiently.

The book is pragmatically oriented. The information is extensive, accurate and clearly presented. It should be very useful for beginners in research and for many others among the hordes entering the now popular field of experimental testing of neuro-psychopharmacologic drugs. It represents an effort to create an attitude of more rigid definition of research problems, the formulation and conducting of experiments, the nature of the conclusions drawn and the ways of reporting the results. In places the sophisticated researchers will find it rather elemental and over-simplified, but if the principles were followed by all concerned it should cut down a great deal of the sterile, dragnet "fox hunting" or "Easter egg hunting" types of approach.

Charles W. Eliot of Harvard said, "The human race has more and greater benefits to expect from the successful cultivation of the sciences which deal with living things than from all the other sciences put together." Reliable research intelligence and long term thinking are needed now (1962), perhaps, as never before.

NOLAN D. C. LEWIS, M.D.,
Frederick, Md.

MALPRACTICE LAW DISSECTED FOR QUICK GRASPING. By *Charles L. Cusumano*. (New York : Medicine-Law Press, 1962, pp. 130. \$10.00.)

In view particularly of the growing number of malpractice suits being brought against physicians (and psychiatrists are *not* immune ^f), a book of this sort is welcome. The pages are letter size (8 x 10½ inches), and printed in double columns, so that a truly impressive mass of material is presented. The author, a veteran lawyer of 30 years' trial experience, marshals his information succinctly, in readily comprehensible language, and under clear and concise headings.

There are 28 chapters, dealing for example with the relationship of physician and patient, the duties of the physician toward the patient, common and other malpractice grounds, physicians' defenses, consent to treatment, abortions, liability of the physician for restraint or commitment of the mentally ill, and (most important) protective suggestions for physicians. There are also chapters on the liability of dentists, nurses and hospitals. The index is thorough, and a bibliography is added for further reference to various aspects of the law of malpractice.

The book does not purport to be compendious, but it is an extremely useful general treatment by an expert of a subject which is of vital interest to every physician in practice, regardless of specialty.

WINFRED OVERHOLSER, M.D.,
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DIE PSYCHOTHERAPIE IN DER PRAXIS. By *Viktor E. Frankl*. (Wien : Franz Deuticke, 1961, pp. 256. OS 148.)

Viktor Frankl's writings dispel a lot of doubt about the feasibility of the new, existential approach in psychiatry. This approach has been accepted in many psychiatric centres of Western Europe and it is spreading, slowly and cautiously, to North America. Here, it seems to be more criticised than studied. Existentialism is misunderstood as an intrusion of an alien

philosophy into our field of clinical psychiatry. This suspicion is not justified. Existentialism is not opposed to any other system, dynamic or organic. It only emphasizes the need for a truly holistic concept of man.

Frankl is a clinician, and he demonstrates how existential attitudes may be applied in psychiatric practice. He does not leave the secure ground of empirical observation. He sees and treats the whole person. For him the human being is not only his body and his mind but something more which is called the spiritual dimension. As psychiatrists we are inclined to shrink away from whatever is called spiritual, because this word has a religious connotation. To avoid this confusion, Frankl ingeniously uses a neologism. He speaks of noëtic phenomena and noödynamics.

Frankl teaches that man is motivated not only by Freud's will to pleasure and Adler's will to power but also by a will to meaning. Man has to find the meaning, the unique sense, of his living. The loss of a sense of being causes an existential vacuum which may produce a noögenic neurosis. These patients can be helped by the special type of psychotherapy which Frankl calls logotherapy (logos—meaning).

The second, revised and supplemented edition of his *Psychotherapie in der Praxis* gives a clear presentation of logotherapeutic concepts and procedures. The reader who abhors any noödynamic involvement will find very interesting descriptions of Frankl's easily applicable, special psychotherapeutic techniques such as paradoxical intention and de-reflection.

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RECOGNIZING THE DEPRESSED PATIENT. By Frank J. Ayd, Jr., M.D. (New York: Grune & Stratton, 1961, pp. 138.)

This is a well-written, informative book of mixed blessings. Addressed to the general practitioner it fulfills its promise for diagnostic cues in the symptoms that bring a depressed patient to the physician, and in its compendium of statistics on suicide and recurrence of post-partum depression gives convenient information well worth the psychiatrist's interest. But the critique of etiology and treatment is biased and the predepressive personality profile is misleadingly oversimplified.

The book's excellences are numerous. It gives a good phenomenologic description of some of the depressed states and recommendations on how to cope with the potential suicide. Dr. Ayd reminds us of the possibility,

rarely thought of, that some patients are homicidal. We are also given a rationale for hospitalization and suggestions for handling the patient's reality situations. A very nice point made is that the physician should not accept the patient's explanation for his sense of guilt, thereby not re-enforcing it.

However, a number of significant exceptions must be taken. Clinically, the distinction drawn between the manic-depressive and the neurotic or reactive depressive is ambiguous and even ambivalent. (Incidentally neurotic and reactive are used as being synonymous.) The distinction is based on neatly drawn personality pictures that actually predispose to erroneous application: "The manic-depressive subject to depression basically is a considerate, affable, humble, tolerant, generous, easy-going, shy and sensitive individual . . . The psychoneurotic, by contrast, is egocentric, selfish, intolerant, inconsiderate, critical, aggressive, and exhibitionistic" (p. 92).

The eye of the beholder! In the paper by Cohen, *et al.*, "An Intensive Study of Twelve Cases of Manic-Depressive Psychosis" (*Psychiatry*, 17: 103, 1954) the patient profile before and during therapy is presented as of a demanding, reproachful individual, not perceptive of subtleties, with difficulty in establishing rapport and given to stereotyped and restricted speech.

Anyway Dr. Ayd is prone to claim the so-called neurotic or reactive depressive for the organic camp. Furthermore, we are pressed to the inference that a depression which responds to antidepressant drugs is organic, one that does not is neurotic—an inference with the danger of *post hoc* reasoning.

Dr. Ayd describes only depression with rhythmic recurrence. However, it is a common clinical experience that we encounter patients with a depleting, persisting, moderate depression. By this oversimplification, he is enabled to use the rhythmic recurrence as though it is evidence of an exclusively organic etiology.

Further oversimplification: Mention of the fact that the obsessive personality occurs both in the pre-schizophrenic and in those with never a psychosis is omitted. The practitioner left with a sense of a one-to-one correlation that may help him detect the depressive may make him argue himself out of recognizing the ambulatory schizophrenic.

The troubling question of the etiologic factors in the depressive states is met by a dogmatic, straight, organic answer. The work of psychotherapists toward the psychogenesis, psychodynamics and therapeutic effectiveness in depressions is dismissed with less than faint

praise. Though Dr. Ayd states, "No definite pathology has been established for affective disorders, but the clinical observations of recent years, have given substance to the hypothesis that there is a neurophysiologic basis for this illness" (p. 6), and again "The importance and influence of altered cerebral physiology in determining the emotional symptoms of a depression cannot be stressed too much" (p. 49).

However, it is not disproved that the psychogenic may be the prior condition for disturbing the diencephalic mechanism, since we are psychosomatic beings and not disembodied abstractions.

Strained interpersonal relationships are presented only as the result of a physiologic illness. The familial incidence of depressive reaction cited is accounted for as hereditary and the contrary hypothesis, about emotional interaction within a family as subculture affecting the personalities of all its members, is not even mentioned.

Dr. Ayd engages in the paradox of attacking psychotherapy of depressives when practiced by psychotherapists, but sanctioning it by the general physician, at least as a supportive reassuring variety. "There is no valid evidence . . . that any type of psychotherapy will prevent or reduce the risk of recurrence (p. 19). Without critical analysis of cases, this position must remain simply the author's slanted assertion. This writer has contrary experience of the swift alleviation of fairly severe depressives in long range psychotherapy without drug therapy and well within the 6 months mentioned by Dr. Ayd as the spontaneous course of the disorder.

In short, this book excels in helpful practical pointers for the general physician but the oversimplification and the dogmatic position taken can be misleading and discourage an open mind about inquiry into depression.

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THE CRY FOR HELP. Edited by Norman L. Farberow, Ph.D., and Edwin S. Schneidman, Ph.D. (New York, Toronto, London: McGraw-Hill, 1961, pp. 398, incl. bibliography, indices. \$11.75.)

This is a book about suicide. It is based on the work of the Suicide Prevention Center in Los Angeles. Including the editors, 14 contributors account for the text. The discussions include statistical studies, suicides in schizophrenia, medicolegal questions, equivocal suicide deaths, survey of suicide prevention agen-

cies in general and the one in Los Angeles in particular.

There has been no agreement around the world, either in past times or now, in social attitudes toward the suicidal act, social consequences that are on record, religious attitudes, if any, and notably legal and medical judgments as to the mental state of the suicide. And the specialist who tries to look into the mind of the suicidal person, or to guess, after the fatal event, what was in there, is not likely to be very successful.

For example, there is no reconciliation between the position of the rigid clinician who insists that the suicidal act is in itself and always a symptom of mental illness and the broader view of those, whether psychiatrists or not, who are persuaded that in the absence of other evidence pointing to an unscand mind, the self-determined end of one's life may not be simply an act of clear reason. Perhaps the not least unintelligent of coroners' reports was one that stated: The deceased came to his death by his own hand for reasons best known to himself.

The authors estimate that each year some 6000 persons in Los Angeles County make serious suicidal attempts. It is with those who are hospitalized that the staff of the Suicide Prevention Center (SPC) is mainly concerned. The work of SPC they describe in this book. The description is comprehensive with endless details—all interesting, and many important.

The well recognized numerical discrepancy in attempted and successful suicide between males and females is shown by these figures for L. A. County, 1957: attempted suicide—males 828, females 1824; committed suicide—males 540, females 228. These figures represent documented cases, not the total number known to have occurred.

A schedule is presented containing the questions one must try to answer in evaluating the suicidal risk in any given case in order to determine appropriate measures to be taken.

The authors emphasize the need for more information about prodromal symptoms that so many suicidal persons show in advance of the suicidal act. For obvious reasons these manifestations are difficult to come by. Those who have observed them are prone to minimize their importance and recall them too late.

Knowledge that the SPC exists in the community prompts telephone calls from friends or relatives of suicidally inclined persons and often the patient can be brought in for consultation and any necessary action can be taken. The SPC has established working relations with more than 50 health and welfare agencies

and resources in Los Angeles with gratifying results. At the time of writing the SPC hoped but was not yet financially able to establish a 24-hour psychiatric service for suicidal persons.

One function of the SPC is to clear up myths and gross misconceptions about the act of suicide and suicidal talk or threats.

Beside the Los Angeles Center, established in 1958, several others are described in this book, those at Boston, London, New York, Vienna, West Berlin; and in addition there are published telephone numbers in a number of large cities which persons needing help can call.

The text portion of this book is in two parts. Part I, *The Community Response to the Cry for Help* (pp. 149), contains the solid social and medical work the SPC is doing in Los Angeles, only a few salient features of which are here mentioned. Part II, *The Psychotherapeutic Response to the Cry for Help* (pp. 169), is a very curious section. Here psychiatry becomes splintered. Beginning with Freud and his defectors, also two psychologists—eight in all—theoretical material is presented by disciples of these several systems. The authors placed before these selected commentators a specimen case history which had been compiled by asking the patient questions and then interviewing his mother. Both of these answered after their own fashion. The history thus obtained, although of ample length, was quite superficial. On the basis of this information the respondents were asked to interpret the case of this patient whom they had never seen, and to make psychotherapeutic applications according to their several theoretical systems. What purpose this great mass of speculative material could serve in relation to the essential work of the SPC is difficult to discern. This section simply presents condensed statements of eight varieties of psychotherapy currently in practice.

The patient who was unwittingly the basis of this voluminous esoteric exegesis was discharged from the general hospital three days after the SPC psychiatrist had finished interviewing him and before he could be subjected to any or all of the specialized regimes described in Part II. Follow-up was thorough but in vain. Neither the patient nor his parents could be reached. Letters remained unanswered, "he and his parents simply seemed to have disappeared from Los Angeles . . . At least he has not appeared on the suicide lists of the Los Angeles County Coroner to date."

A bibliography classified under the headings: Psychological — General, Sociological,

Medico-Legal, Religions-Philosophical, and filling 60 pages closes the book.

C. B. F.

AN INTRODUCTION TO PSYCHIATRY. 2nd Ed. By *Max Valentine*. (Baltimore: Williams & Wilkins, 1962, pp. 316. \$5.00.)

This admirable small manual in a soft leatherette binding covers with great clarity the major problems of the clinician and private practitioner. The author starts with the milestones in the progress of mental healing, from the beginning of recorded history (3000 B.C.) to date. Throughout the 20th century only seven names are mentioned in the neurology column: Sherrington, Alzheimer, Cushing, von Economo, Dandy, Cannon and Penfield. For the same period 17 names are recorded in the progress of psychiatry, including Adler, Jung and the therapists Sakel, Cerletti and Moniz, of lobotomy fame. Valentine begins modern psychiatry with Galton (1879) and Freud is pushed back to the 19th century (1893).

He discusses mind and body, instinct and emotion, the innate release mechanism and perception, including gestalt. Perceptual recognition is influenced by inner drives. He accepts Ashby's theory that the knowledge of a person's awareness is prior to all other forms of knowledge. Emotional correlates affect the body systems. The phylogenic development of emotional response has an adaptive value. He distinguishes in the etiologies the genogenic, thermogenic, histogenic and emotogenic.

The chapter on case-taking and symptomatology is given in greater detail. In personality development the psychoanalytical approach is evident. In child psychiatry he finds two major problems, the developmental and behavioral. In the psychiatric syndromes of the adult, he elaborates anxiety, depression and obsession.

For mild depressions he advises the amphetamines and ritalin. He discourages the use of the iproniazids. He favors a return to the use of ECT in depressions. Hysteria and sexual abnormalities are prominently presented. The author has not given up, evidently, the inclusion of "anorexia nervosa" as a psychiatric entity in the existence of which we, in America, do not believe.

In the further chapters the author discusses schizophrenia and other psychoses together with psychopathy, while the chapters on treatment are rather condensed. The last chapters treat mental tests, mental subnormality and forensic problems.

Every chapter is accompanied by an ample

bibliography ("references" and "further reading"): The small, convenient pocket-sized book covers the same field as the larger texts, but with more clarity and practicality.

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VALUES IN PSYCHOTHERAPY. By Charlotte Böhler, Preface by Edward J. Stainbrook. (New York: Crowell-Collier, 1962, pp. 251, \$6.95.)

Psychotherapy, as the contact of two or more people, has the purpose of restoring the patient(s). Restoration to what? Here is the problem to which Charlotte Böhler has devoted her present book.

In first approximation, one may speak of values, of guideposts necessary for navigation in the storms of life. We all have a basic experience of the righteous and the wrong way of life. Without this, the question for the special forms of ethics and ethical values would be senseless. Even if we cannot theoretically understand or practically orient our actions on the values we recognize, we could not discuss any form of absolute or subjective or relativist or sceptical ethics, unless we advert to the primary experience of the righteous. Granting that without values psychotherapy is impossible, the next question is, what should be the role of the psychotherapist? Böhler has given us a valuable survey of the various attitudes from the older psychoanalytic activism, the belief in the automatic reorientation of the patient on new behavior patterns, up to more recent tenets of Freud himself and many of his modern followers together with glimpses at the beliefs held by existentialists. Of late we have come to acknowledge that sooner or later one has to "push." The "mechanisms" that may be used by the psychotherapist, such as identification, transference, creating a new initial neurosis, on top of the old one, are discussed. This reviewer wants to mention Rudolph Eckstein's lucid reflections on parallels between the therapeutic and the social processes. Eckstein bases his ideas mainly on the analogies developed by Freud in the first edition of his *Traumdeutung (Interpretation of the Dreams)*. Eckstein finally asks, what is the structure of the external world to which the organism has to adapt? However, adaptation is only one of the values.

The survey of the theories on: When is a patient to be considered cured? shows that at present we have no more of a system of values or the patient's valuations than we are possessed of a generally accepted definition of mental health (see Marie Jahoda: *Current*

Concepts of Positive Mental Health, 1959).

Böhler winds up with the modest statement "in enumerating five frequent and typical situations (between therapists and patient) . . . I do not claim to have answers, I merely raise questions." The book, in fact, contains most interestingly described cases and a survey of the ideas, rife among psychotherapists, for both of which we must be grateful.

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A STUDY OF PSYCHOPHYSICAL METHODS FOR RELIEF OF CHILDBIRTH PAIN. By C. L. Buxton. (Philadelphia: W. B. Saunders, 1962, pp. 116.)

It is fortunate that a writer of Dr. C. L. Buxton's experience and qualifications has undertaken such a study. As Professor of Obstetrics and Gynaecology at Yale University School of Medicine, he is eminently fitted both by the experience in their own obstetrical unit and his opportunity to compare various methods for relief of pain in childbirth. As a result of a year's study in various centres in Europe, Britain, and the United States, he objectively approaches the comparison and analysis of the various methods employed. Consideration is given to the programme of "Natural Childbirth" outlined by Grantly Dick Read and Helen Heardman emphasizing psychological education and physical preparation for this event. The original Russian method of psychoprophylaxis involving a sublimation of pain at the cerebral level is compared with autogene training which is characterized by psychic and somatic relaxation to the point of self hypnosis. Hypnosis itself is considered as well.

Specific programmes at individual institutions rely more or less on one of these techniques or combinations of features from several being adapted to the local needs. It is almost impossible to objectively assess the result of such programmes, but there must be general agreement that psychological education and physical preparation is fine training for any event in life whether it be childbirth or the tests and problems confronting us daily. Perhaps the most important value of such an assessment is to emphasize the variation in individuals and the consequent variation in meeting their needs. No single programme can be adapted to all patients and the selection of what is best for each individual presents a real challenge to the attending medical and nursing staff. As Dr. Buxton concludes "It [psychophysical training] will merge almost imperceptibly into the over all concept of good prenatal and intrapartum obstetrical care so

and controversial identity and still retain all that it will lose its present possibly militant of its essential advantages." Everyone interested in good obstetric care will find this volume extremely thought provoking and helpful in placing both psychophysical and pharmacological methods for relief of pain in childbirth in a rational perspective.

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ELECTRODIAGNOSIS AND ELECTROMYOGRAPHY. Second Edition. Edited by *Sidney Licht*. (New Haven, Conn.: Elizabeth Licht, 1961, pp. 470. \$12.00.)

The second edition of this book dealing with the application of physiological techniques in the diagnosis of neuromuscular disorders has been considerably revised. The list of contributors has been expanded and chapters dealing with equipment and several new techniques have been added.

The first part of the book includes an excellent chapter on apparatus and basic electrical theory necessary for the understanding and proper application of the electronic equipment used in the various procedures. Concise accounts of the physiology and histology of skeletal muscle and nerve are presented. A new addition is a well illustrated description of the normal histology and pathology of motor endplates and small intramuscular nerves. While one cannot agree with the author that this technique will replace a routine muscle biopsy, the changes found will be of interest to those unfamiliar with the recent reports in the literature.

In the second part of the book, methods for the determination of chronaxy and strength duration curves are presented fully. Two chapters are devoted to electromyography. There is considerable redundancy, and precise accounts of all the varied aspects of muscle function recorded and measured by electromyography are not clearly stated. Another section covers motor and sensory nerve conduction and provides a complete account of this new and valuable method and the author's wide experience. Short introductory descriptions of electroencephalography and electroretinography complete the volume.

This book will be of interest to those physicians and surgeons undertaking the investigation and treatment of patients with injuries and disorders of peripheral nerve and diseases of muscle. It is a comprehensive account of all the current electrical techniques and contains much useful information.

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DISEASE AND DESTINY. A Bibliography of Medical References to the Famous. By *Judson Bennett Gilbert*. With Additions and Introduction by *Gordon E. Mestler*. (London: Dawson's of Pall Mall, 1962, pp. 535. £6.10.0.)

Dr. Judson Bennett Gilbert (1898-1950) was a urologist and scholar who spent many years in the vast bibliographic labor of collecting references to the diseases, disorders, and illnesses of the famous. The posthumously published volume contains some 12,000 references of this kind. The entries are arranged alphabetically under the names of the individuals who form the subject of interest. This is something to be grateful for, and although it is the obvious method of classification, one can imagine a classification by disease, which would have played havoc with the bibliographer's intention and the researcher's time. All students of the historiography of the afflictions of the famous will be eternally indebted to the late Dr. Gilbert for his admirable work, and to his coadjutor and editor Dr. Gordon E. Mestler for bringing this work to publication.

ASHLEY MONTAGU, PH.D.,
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THE SCIENCE OF DREAMS. By *Edwin Diamond*. (Garden City, N. Y.: Doubleday, 1962, pp. 263. \$4.50.)

Psychiatrists usually think of dreams as expressions of unconscious hopes or fears; that is, as psychologically powered. Many other physicians prefer an essentially physiological hypothesis; or they assume that dreams are due to indigestion. In this book, Mr. Diamond, science editor of *Newsweek*, presents the case for the physiologic explanation. He summarizes the experimental work at several universities and hospitals which suggests that EEG changes are produced during dreams. It thus becomes theoretically possible to find out just when a sleeper starts and stops dreaming. On the basis of this and similar evidence, Mr. Diamond says that everyone dreams every night, that everyone has more than a thousand dreams a year, and that dreams are so hard to remember because during sleep, "the higher brain centers are taking it easy."

He notes that dreams rarely concern business affairs or world events or newspaper stories. Unpleasant dreams, he finds, are more numerous than pleasant ones, in spite of the traditional semantic implications of the word "dream." He quotes Calvin Hall as saying that "dreaming, on the whole, is not a pleasant pastime."

Why do we dream? Mr. Diamond offers an ingenious and somewhat involved teleologic explanation. It goes like this. When the hungry infant is not fed on time, he bemuses himself with a hallucinatory memory of earlier feedings. This discharges the mouth-centered tension and conditions him so that dreams become a common way of relieving all tensions. If dreams were not available, then "this would dam the pressure to the breaking point. Pressure would then burst into waking life, and inundate the conscious mind with distorted images. The senses would be befuddled and perceptions blunted. The dream cycle, on the other hand, regularly drains off these pressures before they build up dangerously. In Fisher's words, the dream 'by permitting each of us to go quietly insane every night, helps preserve the mind and ensure daytime sanity.'"

The normal operation of the brain, he suggests, requires an unbroken flow of arousal signals from the reticular formation. To provide the necessary and varied sensory bombardment is one of the functions of the dream. The visceral brain and memory constitute the storehouse from which comes "the stimulation needed to keep the rest of the brain in working order."

In reading this coldly physiologic explanation one is impressed with the author's lack of interest in possible meaning patterns. The whole interpretation, indeed, displays a kind of blunting of affect. It is this non-emotional, uncommitted, objectively measurable feature which gives it the boastful title, *Science of Dreams*. You cannot prove by similarly objective technics (EEG, for instance) that there is any meaning in dream content; but you can feel, if you cannot prove, that there is more to it than this sterile and mechanical physiologic explanation.

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PSYCHOLOGY FROM THE BIOLOGICAL VIEWPOINT. (PSYCHOLOGIE IN BIOLOGISCHER SICHT.) By W. R. Hess. (Stuttgart: Georg Thieme Verlag, 1962, pp. 120, DM 20.00.)

In this book Hess discusses in his cautious and circumspect way, whether and to what extent brain physiology can contribute to our understanding of psychological phenomena. Until recently physiology had very little to offer the future psychiatrist and neurologist. One had to be satisfied with the data supplied by morphological methods. Students, however, are interested in the processes which take place in the living brain and which are connected with the psychological events. In the course

of his extensive experimental studies on animals Hess had frequently observed that electrical stimulation as well as cauterization of circumscribed brain stem areas, particularly in the diencephalon and the hypothalamus, would produce symptoms and syndromes which showed a remarkable resemblance to behaviour patterns usually connected with certain contents of consciousness. These observations led to a systematic search for the available data on the effect of stimulation and/or destruction of cerebral structures on the one hand and psychological phenomena on the other hand. An account of these findings based on Hess' own experiments as well as on the experimental work of other workers using identical or comparable techniques is given in this book. Neurosurgical observations, mainly by Penfield, are frequently referred to. So are some observations recently made in psychopharmacology, particularly with LSD.

The book is divided into three parts. The first deals with the fundamental behaviour patterns and mental capacities of man (and certain higher organized animal species), which are defined and described in some detail as to their biological significance. The second part forms the main content of the book. It deals in great detail with the relationships between mental functions and cerebral organization as evidenced by animal experiments and clinical experience. The third part elucidates the principles which govern the relationship between mental processes and cerebral innervation patterns. The fundamental principle is the fact that the brain is endowed with the capacity to form contents of consciousness.

In the opinion of this reviewer Hess' book should be interesting not only to medical students, but to everybody seriously interested in the mind-body problem. It is a thought-provoking book.

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DIE PFLEGE DER GEMÜTS-UND GEISTESKRANKEN. By Walter Morgenthaler. 7., völlig neu bearbeitete Auflage unter Mitarbeit von Dr. F. Singeisen. (Bern und Stuttgart: Medizinischer Verlag Hans Huber, 1962, pp. 360.)

Dr. Morgenthaler was a junior staff member of the University Mental Hospital Waldau in Bern when, in 1908, he had the idea of organizing a course for the hospital's staff of psychiatric nurses and attendants. The Personnel Association of Swiss Mental Hospital Attendants launched a campaign to have a similar course made obligatory in all Swiss mental hos-

pitals. Dr. Morgenthaler was almost the only psychiatrist to promote this, and in spite of much professional and political opposition the program was started in 1925 and Dr. Morgenthaler published the official textbook in 1928.

Dr. Morgenthaler was a pioneer in many fields. He was one of the first to systematically study the artistic achievement of psychotics and to collect their paintings. A schizophrenic patient in Waldau, Adolf Wölffli, had become famous for his paintings even in artistic circles. Morgenthaler wrote about him a well-known illustrated monograph "Ein Geisteskranker als Künstler" (1921). He also organized a psychiatric museum in Waldau Hospital where he collected paintings by psychotic patients as well as a unique collection of authentic old restraining and "shock therapy" devices.

Morgenthaler was the first to recognize the merits of Hermann Rorschach's ink-blot test. Without his help, Rorschach would never have been able to publish his book. (Incidentally, it was Morgenthaler who suggested the word "Psychodiagnostik" to Rorschach who adopted it.) After Rorschach's death, Morgenthaler was for several years almost alone in his fight for recognition of Rorschach's test. It was Morgenthaler who organized the first International Rorschach Congress in 1949, and who founded the International Rorschach Society and later the International Rorschach Archive. He also founded the Swiss Society of Psychology and became chief editor of its journal. Among his other publications is "Geschlecht-Liebe-Ehe," a book on marriage counselling (a field in which Morgenthaler also pioneered), and a study on the last letters of 47 persons who had committed suicide (1945).

This 7th edition of Morgenthaler's textbook of psychiatric nursing has been revised by Dr. Singeisen, but does not differ essentially from the previous editions. Every page of the book shows that it is built on practical experiences. There is hardly a difficulty to be expected to arise between nurse and patient which has not been anticipated and discussed in the book. It is also in the true sense a *textbook* to be used in courses, read and discussed line by line. It strives to give precise definitions of every psychological and psychiatric term; no word is used, of which the meaning is vague or am-

biguous. Very little psychoanalytic terminology is included. The text is concise and of a crystalline clarity. The description of mental diseases follows a classification derived from Kraepelin. The illustrations are abundant and excellent.

The book is obviously written for Swiss psychiatric nurses, although French, Italian and Spanish translations do exist. But it could hardly be applied outside of Switzerland without some modifications.

We take the opportunity in this review to express our congratulations to Dr. Walter Morgenthaler who recently celebrated his 80th birthday.

H. ELLENBERGER, M.D.,
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MENSCHENFUEHRUNG IM BLICKFELD DER PÄDAGOGIK UND PSYCHOHYGIENE. (Leading People in the Focus of Pedagogy and Mental Hygiene.) By Haensel, Dienelt, and Stransky. (Oesterreichischer Bundesverlag-Wien, 1960, pp. 140. \$8.50 and \$10.50 hard cover.)

Three Viennese, the sociologist Ludwig Haensel (meantime deceased), the pedagogue Karl Dienelt, and the psychiatrist Erwin Stransky, presented this book "to the World Federation for Mental Health in World Mental Health Year (1960)."

Haensel discusses the sociological problems, especially the still increasing difficulties grown-ups and adolescents are faced with in their mutual relationships. Dienelt emphasizes the importance of the personality of the pedagogue (Erzieher) who needs self-discipline if he wants to develop it in his pupils. Stransky presents the significance of the I-Thou-relationship and the subordination-authority-relationship about which he published a monograph "Subordination, Authority, Psychotherapy" as early as 1928. Stransky explains that many psychopathological phenomena may occur in the evolution of and adjustment to figures of authority. Stransky is anxious to bring home that the physician-patient-relationship makes it particularly obvious that the leading persons concerned are closely inter-related and that treatment must be adapted accordingly.

EVALYN KAHN, PH.D.,
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IN MEMORIAM

ISRAEL SPANIER WECHSLER, M.D. (1886-1962)

To write a memorial of Dr. Wechsler is truly an interdisciplinary task. He was outstanding not only as a neurologist, psychiatrist and medical educator, but as a historian, philosopher and literary man.

He was born in Roumania and came to this country at the age of 14. He was educated in New York City public schools and graduated from the Medical College of New York University in 1907. After a short period in general practise, he began his training at the Neurological Institute under Dr. Frederick Tilney. He became chief of the Vanderbilt Clinic in 1919 and professor of clinical neurology at Columbia University in 1931. He was attending neurologist at the Montefiore Hospital from 1920 to 1938 and chief of the Department of Neurology of The Mount Sinai Hospital from 1938 to 1951. His offices included the Chairmanship of the Section of Neurology and Psychiatry of the New York Academy of Medicine, the Presidency of the New York Neurological Society and the Presidency of the American Neurological Association.

Dr. Wechsler participated in the development of Montefiore Hospital into a great neurological center. This was the era of classical descriptive neurology, of nosology and the correlation of clinical and neuropathological data. With his colleagues, Keschner, Goodhart, Savitsky, Brock and Davison, he elucidated the hitherto confused area of the extrapyramidal diseases and other disorders of movement. His coming to Mount Sinai paralleled the growth of his interest in neurophysiology and neurochemistry. His introduction of vitamins into the treatment of peripheral neuropathies provided a basis for much further research. He was particularly stimulated by the work of Fulton and Ranson, and the subsequent work on the role of the hypothalamus and limbic system in emotional behavior. It is fitting that the Israel Wechsler Memorial Lectures, begun during his lifetime, should have included such

speakers as Fulton, Magoun and Kety.

Although his *Textbook of Clinical Neurology*, now in its ninth English edition, is his most widely read work, he wrote extensively on psychiatric subjects. His book, *The Neuroses*, is a compact summary and guide to treatment. Dr. Wechsler was fond of recalling his service at the Vanderbilt Clinic where a physician was expected to be as adept in the treatment of tabes dorsalis as in the handling of a phobic reaction. He himself was an excellent psychotherapist. Wechsler's pursuit of problems of the mind included not only the area of brain function and pathology, but psychological, social and cultural aspects. He drew attention early to the changing manifestations of the neuroses with cultural change. He was interested in psychoanalysis and traveled to Vienna to visit Freud on two occasions. His formulation of the neuroses involved a number of psychoanalytic concepts. Yet he was highly critical of the unscientific attitude of some analysts and believed firmly that there could be no ultimate understanding of mental processes without fundamental knowledge of the structure and function of the brain. While Dr. Wechsler would gently chide those of his neurological residents who had been "seduced" by psychoanalysis, he recognized the need of each discipline to develop independently with new methods of study before a correlation could be made. Actually, Dr. Wechsler gave a neuropsychiatric baptism to more of today's outstanding psychoanalysts than probably any teacher of his generation.

Dr. Wechsler's outstanding quality was his humanity. He was attentive to and considerate of the youngest interne on his staff at a time when the hierarchical organization of other hospital services resembled a pecking order. He was respectful of patients whom others regarded as "frontal lobe syndromes." He was not dogmatic and liked to say that he learned from each member of

his staff, particularly those whose training in modern medical schools had been in some areas superior to his own. The sudden death of his only son, Robert, a medical student, was a tragic loss. Yet Israel Wechsler had many sons. He furthered the careers of many young men, obtaining grants and fellowships and giving generously of his personal funds.

Wechsler read and wrote extensively of the history of medicine. His *Introduction to History of Neurology* was a regular feature of his textbook and is a fascinating account of the development of our ideas of brain and mind. His biographical accounts of Maimonides, the physician, and S. Weir Mitchell also reflect his scholarly and literary interests. His style was lucid and he had a particular gift for epigram and apt metaphor. He was as likely to criticize a member of his staff for a dangling participle as he was for the omission of a pendular knee jerk. He was a charming, witty speaker. His reminiscences of his friendships with Einstein, Freud, Sinclair Lewis and the philosopher Morris Raphael Cohen indicate the breadth of his enthusiasms.

Dr. Wechsler was a vigorous Zionist, and he selected the Hebrew University in

Jerusalem as the special object of his devotion. He furthered its growth by raising large sums of money, by arranging the exchange of students and faculty with American centers, and by assisting personally in the training of men in this country and Israel. In 1949 he went to Jerusalem to take part in the inauguration of the Hebrew University—Hadassah Medical School. He was a member and Deputy Chairman of the Board of Governors and for several years was the President of the American Friends of the Hebrew University.

In 1947 the Maimonides Citation was conferred upon him by the Jewish Theological Seminary of America in recognition of his contributions to medicine and for his work in the cause of the Hebrew University and Medical School.

Dr. Wechsler is survived by his wife, Minnie, his daughter, Miriam, his son-in-law, Dr. Louis Linn, and his two grandchildren, Judy and Robert. His brother, Dr. David Wechsler, is the noted psychologist.

Israel Wechsler loved wisdom and he loved people. They miss him as I do.

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ANNUAL INDEX

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